

COMMISSION ON MANUAL AND PRACTICAL INSTRUCTION

IS

PRIMARY SCHOOLS UNDER THE BOARD OF NATIONAL EDUCATION
IN IRELAND.

FINAL REPORT

OF

THE COMMISSIONERS.

Presented to Parliament by Command of Her Majesty.



DUBLIN,

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WARRANT APPOINTING THE COMMISSION.

CHIEF SECRETARY'S OFFICE,
DUBLIN CASTLE.

BY THE LORD LIEUTENANT-GENERAL AND GENERAL GOVERNOR OF IRELAND.

CADOGAN.

WHEREAS it appears to Us to be expedient that a Commission should forthwith issue with a view to determining how far, and in what form, Manual and Practical instruction should be included in the Educational System of the Primary Schools under the Board of National Education in Ireland.

NOW We, GEORGE HENRY, EARL CADOGAN, Lord Lieutenant-General and General Governor of Ireland, do hereby nominate and appoint—

SOMERSET RICHARD, Earl Belmore, G.C.M.G. ;
His Grace the Most Reverend WILLIAM CONYNGHAM, Baron Plunket, D.D., LL.D. ;
His Grace the Most Reverend WILLIAM J. WALSH, D.D. ;
The Right Hon. CHRISTOPHER PALLES, LL.D., Lord Chief Baron ;
The Right Hon. CHRISTOPHER TALBOT REDINGTON, B.A. ;
His Honor Judge SHAW, Q.C. ;
The Right Reverend Monsignor MOLLOY, D.D., D.S.C. ;
The Reverend HENRY EVANS, D.D. ;
The Reverend HAMILTON WILSON, D.D. ;
PROFESSOR GEORGE F. FITZGERALD, F.R.C.D. ;
STANLEY HARRINGTON, Esquire, B.A. ;
WILLIAM ROBERT J. MOLLOY, Esquire ;
Captain T. B. SHAW, late Royal Engineers, Inspector of Science and Art Schools under the Science and Art Department in England ; and
J. STRUTHERS, Esquire, Inspector of Schools under the Scotch Education Department,

to be Our Commissioners for the purpose aforesaid, that is to say to inquire and report with a view to determining how far, and in what form, manual and practical instruction should be included in the Educational System of the Primary Schools under the Board of National Education in Ireland.

And for the better effecting the purposes of this Our Commission, We do by these presents authorize and empower you the aforesaid Commissioners, or any three or more of you to be named by you, to call before you, or any three or more of you, such persons as you may think fit to examine, and by whom you may be the better informed in the matter hereby submitted for your consideration, and everything connected therewith, and generally to inquire of and concerning the premises by all other lawful ways and means whatsoever.

And also to call for and examine such books, documents, papers, writings, or records as you or any three or more of you as aforesaid shall think useful for the purposes of the Inquiry.

And We also by these presents authorize and empower you, or any three or more of you as aforesaid, to visit and personally inspect such places as you, or any three or more of you, may deem expedient for the purposes aforesaid, and also to employ such persons as you may think fit to assist you in undertaking any inquiry for the purposes aforesaid as you may deem expedient to make, and Our pleasure is that you, or any three or more of you as aforesaid, do from time to time and with all convenient speed report to Us what you shall find concerning the premises.

And We further by these presents ordain that this Our Commission shall continue in full force and virtue, and that you Our Commissioners do from time to time proceed in the execution thereof, although the same be not continued from time to time by adjournment.

And for your further assistance in the execution of these presents, We do hereby appoint James Dermot Daly, Esquire, M.A., to be the Secretary to this Our Commission, whose services and assistance We require you to use from time to time as occasion may require.

Given at Her Majesty's Castle of Dublin, this 25th day of January, 1897,

By His Excellency's Command,

D. HARREL

COMMISSION ON MANUAL AND PRACTICAL INSTRUCTION

IN

PRIMARY SCHOOLS UNDER THE BOARD OF NATIONAL EDUCATION IN IRELAND.

FINAL REPORT.

TO HIS EXCELLENCY GEORGE HENRY, EARL CADOGAN, K.G.,

&c.,

&c.,

&c.,

LORD LIEUTENANT-GENERAL AND GENERAL GOVERNOR OF IRELAND.

MAY IT PLEASE YOUR EXCELLENCY,

We the Commissioners appointed "to inquire and report with a view to determining how far, and in what form, Manual and Practical Instruction should be included in the Educational System of Primary Schools under the Board of National Education in Ireland," beg to submit to your Excellency our Fourth and final Report, on the subject of our inquiry.

*Proceedings
of the Com-
mission.*

In carrying out the task imposed upon us by your Excellency's Commission of January 25, 1897, we have had ninety-three meetings, of which fifty-seven were sittings for the receiving of evidence. We have taken the evidence of 186 persons whom we considered qualified to give information on the matters submitted to us, and we have visited 119 schools, in most of which we have had an opportunity of seeing Manual and Practical Instruction actually given.

At the commencement of our inquiry, we held seven public sittings in Dublin, in the month of February, 1897. At these sittings we inquired into the actual working of the system of National Education in Ireland, and we ascertained to what extent the various branches of Manual and Practical Instruction find, at present, a place in that system. We also received some suggestions as to what improvements might be made in this respect. We examined thirteen witnesses, all of whom were, or had been, officially connected either with the Board of National Education, or with the Training Colleges for teachers, under local management, in connection with it. This evidence was presented with our First Report.

About the middle of March, we proceeded to England; and in the course of some four weeks, we held public sittings for the taking of evidence, and inspected many schools and kindred institutions, in London, Birmingham, Liverpool, Carlisle, Kendal, Barrow-in-Furness, and other smaller places in the vicinity of some of those named. At Penrith, we visited a Central School of Woodwork for teachers of primary schools; we visited also the Model Farm of the joint County Councils of Westmorland and Cumberland, not far from Penrith; and likewise two plots for illustrative experiments in agriculture, in the neighbourhood of Kendal. From Carlisle, two of our body visited a school in Dumfriesshire, in which a class of woodwork was successfully conducted, although the school had only a single teacher. The evidence taken in England was presented with our Second Report.

In April and May, we held some further sittings in Dublin; and in June, a quorum of the Commissioners, consisting of the Earl of Belmore, Rev. Dr. Evans, and Mr. Struthers, went to Sweden and Denmark, for the purpose of inquiring into the educational system known under the name of Sloyd, and successfully carried out in those countries. They visited Gothenburg, the Sloyd Seminarium at Näs, Trollhättan, Stockholm, Upsala, Gamla Upsala, Norrköping, and two country schools in the vicinity of the last mentioned town. They were enabled to take the evidence of Herr Otto Salomon, the Sloyd-Director at Näs; they saw the woodwork classes in actual operation in most of the schools which they visited; and they obtained in various ways a great deal of valuable information. They went also to Copenhagen, where they visited Herr Mikkelsen's Training School for Teachers, and examined into the working of the Sloyd methods according to the Danish system. After the return of these members of our Commission, some further sittings were held in Dublin. The evidence then taken, together with Herr Salomon's evidence at Näs, and a memorandum on the Sloyd system in Sweden, Russia, and Denmark, was presented with our Third Report.

Proceedings
of the Com-
mission.

In the last days of September, and during the early part of October, we made a tour through Ireland, visiting schools and taking evidence in Kilkenny, Waterford, Lismore, Cork, Limerick, Galway, Sligo, Belfast, and Londonderry. At Waterford, we took the opportunity of inspecting the "De la Salle" Training College; and during our visit to Cork, we inspected the Munster Dairy Farm, in the neighbourhood of that city. From Ireland we passed over to Scotland, and during the latter part of October, we visited schools and took evidence at Dumfries, Lockerbie, Edinburgh, Leith, Glasgow, and Dundee.

Since our return from Scotland we have held many sittings in Dublin, for the taking of evidence and the preparation of our Report. We have also visited the Albert Model Farm at Glasnevin, the Training College in Marlborough-street, "St. Patrick's" Training College, the "Church of Ireland" Training College, and "Our Lady of Mercy" Training College. The evidence taken in September, October, November, and December, is presented as a supplement to this Report.

With a view to ascertain the existing facts with regard to Manual and Practical Instruction in Germany, France, Switzerland, and Holland, we employed as our assistants to visit these countries, Messrs. Purser, Rolleston, Bonaparte Wyse, and Hughes-Dowling. The reports of these gentlemen will be found in Appendix B. We have had the advantage, too, of the assistance of Mr. M. E. Sadler, Director of Special Inquiries and Reports to the Committee of Council on Education, who was kind enough to furnish us with a memorandum on Manual Training for boys in Primary Schools in foreign countries.¹ For our information regarding schools in the United States, we are indebted to the very complete and exhaustive Reports issued by the United States Bureau of Education. We have also had the benefit of the experience of one of our colleagues, Professor Fitzgerald, who took the occasion of a visit to America, in the autumn of last year, to see some of the primary schools in that country.

Result of
Inquiry

After careful consideration of the evidence laid before us, and of the facts which we have seen for ourselves, we now proceed to report, in accordance with your Excellency's Commission, how far, and in what form, Manual and Practical Instruction should be included in the system of primary education carried out by the National Education Board in Ireland. We may at once express our strong conviction that Manual and Practical Instruction ought to be introduced, as far as possible, into all schools where it does not at present exist, and that, in those schools where it does exist, it ought to be largely developed and extended. We are satisfied that such a change will not involve any detriment to the literary education of the pupils, while it will contribute largely to develop their faculties, to quicken their intelligence, and to fit them better for their work in life.

Report
divided into
three parts.

It will be convenient, we think, for your Excellency, if, at the outset of our Report, we set forth, in a summary way, the general conclusions at which we have arrived on this subject, and the main grounds on which these conclusions are based. We will afterwards deal more in particular with the various branches of Manual and Practical Instruction, showing, with respect to each branch, what is the present condition of primary education in Ireland, and explaining in detail the changes which we propose should be made. Lastly, we shall briefly point out certain changes in other parts of the system of National Education, which will become necessary, as we think, with a view to the development of Manual and Practical Instruction.

PART I.

GENERAL CONCLUSIONS, AND THE GROUNDS ON WHICH THEY ARE BASED.

Part I.
General
Conclusions.

I. KINDERGARTEN.—We are of opinion that the general principles and methods of the system known by the name of Kindergarten, which have been already introduced into some of the schools under the National Education Board, should be extended as far as possible to all schools attended by infant children.

II. EDUCATIONAL HANDWORK.—We think that Kindergarten methods and principles should be continued in Classes I., II., and III. of ordinary schools, in the form of Paper-folding, Cardboard work, Wire-work, Brick-laying, Clay-modelling, and such like exercises. These exercises we include under the general term of *Hand and Eye Training*, and we look upon them as of great importance, for the purpose of

carrying on the manual training of the children, from the Kindergarten stage to the higher grades of Manual Instruction. Further we consider that some form of more advanced Manual Instruction should be introduced, as far as possible, in the higher classes of schools for boys; and we recommend, as most suitable for this purpose, instruction in the principles and practice of *Woodwork*, treated educationally. The object to be aimed at, is not to make the boys carpenters, but to train them in habits of accurate observation, careful measurement, and exact workmanship. Such habits we regard as of great value to all boys, whatever may be their subsequent career in life.

III. DRAWING.—We recommend that Drawing should be made compulsory, as far as possible, in all National Schools. The first elements of it find a place in the Kindergarten system, and it should be continued, we think, to the end of the school career. In the classes above the Kindergarten, it should be associated with Hand and Eye Training, with Woodwork, and to some extent also with Elementary Science, as soon as these subjects are introduced.

IV. ELEMENTARY SCIENCE.—We are of opinion that a simple course of Elementary Science should form a part of ordinary education in National Schools. This course should be so framed as to bring home to the minds of the children an intelligent knowledge of the common facts of nature, and the rudimentary principles of science. In the lower classes, it should consist in great part of object lessons; and in the higher classes, it should be illustrated by simple experiments. The pupils should be encouraged and assisted, as far as may be found practicable, to take part in the experiments. The programme for this course, while following everywhere the same general lines, may with advantage be varied in its details, according to the circumstances of the locality, and the character and condition of the children.

V. AGRICULTURE.—We do not think that Agriculture as an art, that is to say practical farming, is a subject that properly belongs to elementary education. At present, the study of what is called the Theory of Agriculture, is compulsory for boys in all rural schools, and is highly encouraged by fees. But our inquiry has shown that this study consists, for the most part, in committing a text-book to memory; and we have come to the conclusion that it has little educational or practical value. We recommend instead, that the course of Elementary Science to be taught in rural schools, should be so framed as to illustrate the more simple scientific principles that underlie the art and industry of Agriculture. We also recommend the maintenance and extension of School Gardens, as a means by which these scientific principles may be illustrated and made interesting to the pupils. On the other hand, we do not consider that the maintenance of School Farms, the object of which is to teach the art of Agriculture, properly belongs to the functions of a Board of primary education. As regards the Model Farm at Glasnevin, and the Munster Dairy School, we think that they could be made more useful for the purposes of agricultural education, if placed in charge of an Agricultural Department, whenever such a Department is established in Ireland.

VI. COOKERY, LAUNDRY WORK, AND DOMESTIC SCIENCE.—We think it very desirable that Cookery, Laundry Work, and Domestic Science, should be taught, as far as may be found practicable, in girls schools. We cannot advise that these subjects should, at present, be made compulsory; but we do recommend that aid should be freely given to provide the necessary buildings and equipment for teaching them; and that managers and teachers should be encouraged to take them up, by a liberal system of grants.

VII. NEEDLEWORK.—Needlework should continue to form, as at present, an important element in all schools for girls. The first elements of it are taught in the Kindergarten system. It should be continued in Classes I., II., and III., as a part of Hand and Eye Training; and, in the higher classes, advanced Needlework will naturally occupy the time devoted to Woodwork in schools for boys.

VIII. SINGING.—We recommend that Singing should be brought within the reach as far as possible, of all the children attending National Schools in Ireland. It has a cultivating and refining influence, and furnishes a source of permanent enjoyment. In England and Scotland, the number of children who are taught Singing, in schools inspected by the State, is about 99 per cent of the number in average attendance; and we see no reason why an equally good result should not be attained in Ireland, if equal encouragement be given. From the experience of English and Scotch schools, it seems clear that the Tonic Sol-fa method of teaching is the most simple and effective. This system has been already adopted in some Irish schools; and we strongly recommend that it be extended as rapidly and widely as may be found possible.

Part I.

General
Conclusions.

IX. DRILL AND PHYSICAL EXERCISES.—Various kinds of Drill and Physical Exercises are now a recognised part of primary education in England, in Scotland, and on the Continent of Europe; and we think they should be introduced into the primary schools of Ireland, with the least possible delay. We are satisfied, from what we have seen and heard on this subject, that such exercises contribute largely to the health, the spirits, and the general well-being of the children. They are no additional burden on school life, but rather a pleasant form of recreation; and the children return from them to their studies with renewed energy.

Mode of
introduc-
tion

It will be for the Commissioners of National Education to consider and determine in what manner these various changes can best be introduced into their system. But we have ventured to make some general suggestions on this head, which it may be well to set forth here in a summary form.

We think that the changes recommended ought to be introduced, not all at once, but gradually and tentatively. They should be tried first in the larger centres, and afterwards extended to more remote districts. It would be necessary, at the outset, to engage the services of experts, from outside the present staff of the National Education Board, whose duty it would be to organise the classes, and to aid the teachers with their counsel and instruction. But we have no doubt that this work, after a little time, could be taken up by the ordinary staff of the Board. Again, it is obviously important that all future teachers should be trained in the new subjects; and the programme of the Training Colleges must accordingly be framed to this end, with as little delay as possible.

We have carefully considered the question, by what means time may be found for the several exercises in manual and practical training which we have recommended; and we have pointed out certain modifications in the present programme of studies, which may be adopted for that purpose, and which, we believe, will not interfere unfavourably with the course of instruction hitherto given in the National Schools.

Lastly, we are strongly of opinion that the system of Results Fees, depending on the individual examination of pupils, at present in force in the National Schools, ought not to be applied to these subjects of Manual and Practical Instruction. While it should be always open to the Inspector to examine individual pupils, we think that the grants awarded to the teacher, in these subjects, should largely depend on the general evidence of his own zeal and industry, on the efficiency of his method of teaching, and on his power to arrest and hold the attention of his class.

Reasons.

The considerations by which we have been led to the general conclusions above set out will be fully discussed in the second part of this Report, under the several heads of Manual and Practical Instruction. But we think it will be for your Excellency's convenience, that the general summary of our conclusions should be here followed by a general summary of the grounds on which they are based.

(1)
Reasons
mainly
educational.

I. First, then, there are reasons founded on educational principles. The present system, which consists largely in the study of books, is one-sided in its character; and it leaves some of the most useful faculties of the mind absolutely untrained. We think it important that children should be taught not merely to take in knowledge from books, but to observe with intelligence the material world around them; that they should be trained in habits of correct reasoning on the facts observed; and that they should, even at school, acquire some skill in the use of hand and eye to execute the conceptions of the brain. Such a training we regard as valuable to all, but especially valuable to those whose lives are to be mainly devoted to industrial arts and occupations. The great bulk of the pupils attending primary schools under the National Board, will have to earn their bread by the work of their hands; it is therefore important that they should be trained, from the beginning, to use their hands with dexterity and intelligence.¹

¹ The general educational value of Manual Training in primary schools, especially for those who have to devote their lives to manual work, has been insisted on by a great number of witnesses. The following may be taken as examples.—*Mr. A. W. Nevis, Director of Manual Training to the Birmingham School Board*, vol. i., qq. 8134—7; *Mr. George H. Robinson, Head Master, Board School, Birmingham*, vol. 5, qq. 3284—95; *Sir Philip Magnus, City and Guilds of London Institute*, vol. ii., qq. 4187, 4230—1; *Mr. T. G. Cooper, H. M. Inspector of Schools in England*, vol. ii., qq. 6136—41; *Mr. Solomon Barber, Organizer of Manual Instruction to the London School Board*, vol. ii., qq. 4928—34; *Mr. Edmund Morris, Instructor in Woodwork to the Barrow-in-Furness School Board*, vol. ii., qq. 10448—8a; *Mr. Arnold Green, Honorary Secretary to the Technical Education Association for Ireland*, vol. iii., q. 10692; *Mr. S. M'C. Murray, Head Master, Science Public School, Edinburgh*, vol. iv., qq. 22199—204; *Mr. J. G. Kerr, Head Master, Allan Glen's School, Glasgow*, vol. iv., qq. 23513—40.

II. Next, we have the practical experience of those schools in England, Scotland, and on the Continent of Europe, in which such a system as we recommend has been already introduced and tested. The evidence we have received on this point, is absolutely unanimous and, as we think, entirely conclusive. We have been told, over and over again, that the introduction of manual and practical training has contributed greatly to stimulate the intelligence of the pupils, to increase their interest in school work, and to make school life generally brighter and more pleasant. As a consequence, the school attendance is improved; the children remain at school to a more advanced age; and much time is gained for the purpose of education.

We inquired particularly whether the literary side of school studies—reading, writing, arithmetic, grammar, and geography—had suffered any loss by the change; and the answer was uniform, that no such loss had been observed. In some cases, we were assured that the literary studies had been positively improved by the introduction of manual training. This result was accounted for, partly by the increased intelligence of the children, partly by the constant change and variety of their occupations,—many of the most useful exercises being only a kind of organised play,—and partly by their increased interest in their work.

We regard it also as a very significant testimony to the value of manual training, that wherever it has been once introduced, it has, with hardly an exception, been continued and extended. There has been practically no disposition to go back to the old system, which made primary education almost exclusively literary in its character; and after an experience extending over some years, there is a general consensus of managers of schools, inspectors, and parents, that the value of primary education has been greatly enhanced by the change.¹

¹ The testimony by which the statements made in the three paragraphs of the above section are supported, permeates the whole body of the evidence we have taken in England and Scotland; and it cannot be adequately represented by isolated citations. Nevertheless, we think it may be well to subjoin here a few references to particular passages of the evidence, which may be taken as typical examples of what we have everywhere heard.

(1.) INCREASED INTELLIGENCE OF THE PUPILS.—*Mr. George H. Robinson*, Head Master, Board School, Birmingham, vol. ii. qq. 3423, 3437; *Hon. E. Lyulph Stanley*, Member of the London School Board, vol. ii. qq. 4402-3; *Mr. J. R. Diggle*, formerly Chairman of the London School Board, vol. ii. q. 4762; *Rev. G. D. Du Port*, H. M. Chief Inspector of Schools in England, vol. ii. qq. 3418-19; *Mr. C. A. Buckmaster*, Senior Inspector of Schools under the Science and Art Department, vol. ii. q. 3589; *Mr. Alfred Percival Graves*, H. M. Inspector of Schools in England, vol. ii. qq. 6193-4; *Sir Joshua Fitch*, formerly H. M. Chief Inspector of Training Colleges in England, vol. ii. q. 4517; *Mr. Edward M. Hance*, Clerk to the Liverpool School Board, vol. ii. q. 7199; *Mr. Jerome Wallace*, Teacher, Harlaw Public School, Cambs., vol. iv. q. 21537-8; *Mr. Robert Calder*, H. M. Inspector of Schools in Scotland, vol. ix. qq. 23890-904.

(2.) GREATER INTEREST IN SCHOOL WORK, IMPROVED ATTENDANCE, AND LONGER TIME AT SCHOOL.—*Mr. George H. Robinson*, Head Master, Board School, Birmingham, vol. ii. q. 3493; *Sir Philip Magnus*, City and Guilds of London Institute, vol. ii. q. 4179; *Hon. E. Lyulph Stanley*, Member of the London School Board, vol. ii. qq. 4464-5; *Mr. J. R. Diggle*, formerly Chairman of the London School Board, vol. ii. qq. 4577-82; *Mr. William Outson*, Vice-Chairman of the Liverpool School Board, vol. ii. qq. 6932-4, 7000-5; *Mr. Edward M. Hance*, Clerk to the Liverpool School Board, vol. ii. qq. 7196-8, 7238, 7302-3; *Mr. A. T. Butt*, Senior Inspector of Schools to the Liverpool School Board, vol. ii. q. 7693; *Dr. J. H. Gladstone*, F.R.S., formerly Member of the London School Board, vol. ii. q. 9923.

(3.) LITERARY STUDIES HAVE NOT SUFFERED.—*Mr. John Taylor*, Head Master, Board School, Birmingham, vol. ii. qq. 3695-700; *Sir Philip Magnus*, City and Guilds of London Institute, vol. ii. q. 4172; *Hon. E. Lyulph Stanley*, Member of the London School Board, vol. ii. q. 4471; *Mr. William Outson*, Vice-Chairman of the Liverpool School Board, vol. ii. qq. 7030-68; *Mr. Edward M. Hance*, Clerk to the Liverpool School Board, vol. ii. qq. 7199, 7267; *Mr. J. C. Pearson*, Director of Manual Instruction to the Liverpool School Board, vol. ii. qq. 8079-80; *Mr. Colin G. Murray*, Chairman of the Edinburgh School Board, vol. iv. qq. 21882-3, 21901-8; *Mr. A. E. Scougal*, H. M. Inspector of Schools in Scotland, vol. ix. qq. 23973-7; *Mr. G. W. Alexander*, Clerk to the Glasgow School Board, vol. ix. qq. 23919-22.

(4.) MANUAL TRAINING, ONCE ESTABLISHED, WAS FOUND USEFUL, TOOK ROOT AND DEVELOPED, AND BECAME POPULAR.—*Mr. A. W. Sewin*, Director of Manual Training to Birmingham School Board, vol. ii. q. 3169; *Mr. John Taylor*, Head Master, Board School, Birmingham, vol. ii. qq. 3693-4, 3725-38; *Sir Philip Magnus*, City and Guilds of London Institute, vol. ii. q. 4167; *Hon. E. Lyulph Stanley*, Member of the London School Board, vol. ii. q. 4480; *Mr. T. G. Rogers*, H. M. Inspector of Schools in England, vol. ii. qq. 5034, 5130, 5138-45; *Rev. G. D. Du Port*, H. M. Chief Inspector of Schools in England, vol. ii. qq. 3406-16; *Mr. John Cooke*, Hon. Secretary, Royal Association for Great Britain and Ireland, vol. i. q. 5619-27; *Mr. Hance*, Member of the London School Board, vol. ii. qq. 6357-60; *Mr. William Outson*, Vice-Chairman of the Liverpool School Board, vol. ii. qq. 6903, 6949-58, 7019; *Mr. A. T. Butt*, Senior Inspector of Schools to the Liverpool School Board, vol. ii. qq. 7693-608; *Mr. William Nelson*, Superintendent of Manual Instruction to the Manchester School Board, vol. ii. q. 8399; *Mr. A. E. Scougal*, H. M. Inspector of Schools in Scotland, vol. ix. qq. 23974-83; *Sir James Lee*, formerly Lord Provost of Dundee, vol. ix. q. 23743-7.

(5.) GENERAL EVIDENCE, INCLUDING TWO OR MORE OF THE ABOVE HEADS.—*Sir Joshua Fitch*, formerly H. M. Chief Inspector of Training Colleges in England, vol. ii. qq. 6493-89, 6543-45; *Mr. Solomon Barker*, Organizer of Manual Instruction to the London School Board, vol. ii. qq. 6832-37; *Mr. Arthur Haveridge*, Superintendent of Schools to Bury-in-Furness School Board, vol. ii. qq. 10282-95; *Mr. Colin G. Murray*, Chairman of the Edinburgh School Board, vol. iv. qq. 21825-35, 21789-99, 21753-70; *Mr. S. M'C. Murray*, Head Master, Selkirk Public School, Edinburgh, vol. iv. qq. 23142-8, 23203-11, 23264-75; *Sir John Outerson*, Chairman of the Glasgow School Board, vol. iv. qq. 23995, 23104-14; *Mr. J. G. Kerr*, Head Master, Allan Glen's School, Glasgow, vol. ix. qq. 23512-23; *Mr. G. J. Threlk*, Head Master, Continuation School, Dundee, vol. ix. qq. 23963-70.

Part I.

(3)

A basis
needed for
Technical
Education.

III. Lastly, there is a consideration of a practical character, which seems to us deserving of no little weight. A strong desire exists throughout this country, and it is growing stronger every day, for the introduction of a general system of Technical Education. It is thought that a good system of Technical Education would contribute largely towards the development of arts and industries in Ireland; and in this opinion we entirely concur. But the present system of primary education is so one-sided in its character that it leaves the pupils quite unprepared for Technical Education. The clever boys trained in the National Schools, if they are disposed to seek for a higher education, may pass with advantage into Intermediate Schools of the kind now general in Ireland; but they are not fit to enter a Technical School, even if they had such a school at their doors. Now it seems to us that the changes we recommend would go far to remedy this defect. The system of National Education, modified as we propose, would give an all-round training to the faculties of the children, and would thus lay a solid foundation for any system of higher education—literary, scientific, or technical—which might afterwards be found suitable to their talents and their circumstances.¹

PART II.

REPORT IN DETAIL ON THE VARIOUS BRANCHES OF MANUAL AND PRACTICAL INSTRUCTION.

Part II.

Detailed
Report.

Having thus laid before your Excellency a short summary of the general conclusions at which we have arrived, and of the grounds on which they are based, we will now go on to discuss, more in particular, the several branches of Manual and Practical Instruction which have formed the subject of our inquiry. In dealing with each branch, we will first state how far it finds a place at present in the primary schools of Ireland. We will then consider, at some length, the various questions that may arise in connection with it, referring as we proceed to the evidence we have taken, to the views and opinions of experts which have been submitted to us, and to the facts which we ourselves have seen. Lastly, we will set out, in distinct form, the specific recommendations that we make, with respect to its introduction or development in the educational system of the National Schools.

I.—KINDERGARTEN

Section I.
KINDERGARTENKindergarten
in the
National
Schools

In 1896 the number of National Schools in Ireland² in which the Kindergarten system was practised, was 357. The number of National Schools in operation in Ireland in that year was 8,606; but under the Rules of the National Education Board, Kindergarten instruction is not recognised except in two special classes of schools. These are (a) fully organised Infants Schools; and (b) schools having a separate Infants Department, conducted in a separate room, and with a teaching staff distinct from that of the rest of the school. The number of fully organised Infants Schools in operation in Ireland in 1896 was 245; Kindergarten instruction was given in 129 of these, only slightly over one half of the entire number. In the same year the number of National Schools in Ireland with separate Infants Departments was 248; and Kindergarten instruction was given in 228 of them. Of the 248 schools with Infants Departments, 236 were Convent Schools; and in 216 of these, Kindergarten instruction was given.

¹ Many witnesses, in the course of their evidence, have incidentally pointed out the necessity of Manual and Practical instruction in primary schools, as a basis for Technical Education. For example:—*Professor H. R. Armstrong*, City and Guilds of London Institute, vol. ii. q. 5795–6; *Mr. J. R. Diggle*, formerly Chairman of the London School Board, vol. ii. q. 4630–61; *Mr. Solomon Barber*, Organiser of Manual Instruction to the London School Board, vol. ii. q. 4838; *Mr. William Gullon*, Vice Chairman of the Liverpool School Board, vol. ii. q. 6931; *Rev. Brother Thomas*, Principal, De La Salle Training College, vol. iv. q. 14377; *Rev. P. Lally*, Honorary Secretary, Galway Technical School, vol. iv. q. 17039–43; *Mr. James Perry*, County Surveyor of Galway, vol. iv. q. 17291–301; *Mr. Colin G. Macneil*, Chairman of the Edinburgh School Board, vol. iv. q. 21843–4; *Sir John Guthrie*, Chairman of the Glasgow School Board, vol. iv. q. 28067–9; *Sir James Lee*, formerly Lord Provost of Dundee, vol. iv. q. 23711–14; *Professor Hartley*, F.R.S., College of Science, Dublin, vol. iv. q. 25248–51, 26353–4.

² Throughout our Report, except where the contrary is stated, the statistics regarding the system of National Education in Ireland are taken either from information specially obtained at the Office of the Commissioners of National Education or from the Commissioners' Report for 1896–7, and the figures given are those for the year 1896, the latest year for which the official returns have as yet been fully made up.

It is to be regretted that in Ireland, as elsewhere, the word Kindergarten is frequently used in a very confusing way. Not uncommonly the expression may be heard that Kindergarten is taught, or is not taught, in a certain school, as if Kindergarten was a subject to be taught to children, like reading, writing, and other subjects of the school programme. In the erroneous view implied in this use of the word, Kindergarten seems to be identified with the exercises, somewhat in the nature of children's games, which the children under Kindergarten instruction are taught to go through. This narrow and misleading view of the subject cannot but create a prejudice against the Kindergarten system in the minds of many teachers, and hinder its introduction into many schools, especially schools conducted by male teachers.

It may not be amiss here to refer to the original conception of the Kindergarten and its work, as devised by Froebel, the author of the system.

The term Kindergarten as used by Froebel has no reference to any subject of instruction. It designates a *method*, formulated by him, for the education of children in their early years. Then, in a secondary sense, the word naturally came to designate the institution or place in which children are educated according to this method.

The method of education formulated by Froebel is based upon certain fundamental principles, fully, but somewhat discursively, expounded by him in a number of his writings. But in its working, this method admits of endless variety in points of detail. Variety in detail is, in fact, one of its essential features, for the process should always be adapted to the capacity of the individual child.

The leading principles embodied in the Kindergarten method of education may be stated as follows:—(1) that education means the development of all the powers of the child; (2) that, in the process of education, the development of the bodily, as well as of the mental, faculties is to be aimed at; (3) that education is essentially defective if it fails to cultivate the moral sense; (4) that what is *spontaneous* in the child is the really valuable part of the process of education, so that the aim of the teacher should be, not so much to give the child instruction *ab extra*, as to supply materials and opportunities for the mind of the child itself to work upon; (5) that these materials and opportunities should be supplied in a well-considered harmonious order, each step in the process of education being naturally led up to by what preceded it; (6) that, as far as possible, the process should be adapted to the disposition, capacity, and actual development of each individual child.

Even from this brief general statement it will be seen how misleading is the view in which the Kindergarten method is regarded as a system of mere childish amusements. The real value of Kindergarten work is that it draws out the natural powers of the child, training and strengthening by suitable exercises those faculties by which knowledge is afterwards to be acquired, and the work of life is to be done.

The German name Kindergarten (*Kinder*, *children*; *Garten*, *garden*) given to this system by Froebel, admirably expresses all this. The name is sometimes taken as if it primarily signified the place in which this method of teaching is to be carried on, and indicated it as a garden. In the view more generally taken, however, the name by which Froebel wished his system to be known is of far deeper significance. Gardens have indeed an important place in the working of the system. But the "garden" which Froebel wished the name Kindergarten to suggest, is a metaphorical one; it is the teacher's sphere of work, and the plants to be tended in it are the children.

The name, thus understood, is aptly chosen to bring into prominence the distinctive features of the system which Froebel intended it to designate. A gardener does not furnish the plants in his garden with leaves and fruit, brought from without, to be attached to them by any artificial process. He tends the plants with care; he helps them in their growth by supplying them with every aid that his skill can suggest as best calculated to promote the free exercise of their own vitality; he removes from about them everything that could harm them, or check their natural development. Precisely similar should be the work of the teacher charged with the education of children, more especially in their earlier years. They are tender plants, and the Kindergarten teacher is the gardener.

The general lines on which Kindergarten teaching is worked out—all of them based upon a close and sympathetic study of the ways and capabilities of children—are fully described in numerous works on the subject. It is sufficient here to mention the large part assigned in the system to singing, and to organised games of various kinds; the use made in it of natural objects, and of the phenomena of nature, as means of education even in the most elementary stages; and its employment of a number of small, easily-handled objects of simple geometrical form, such as balls, and cubes, and cylinders, termed "Gifts," which are intended to awaken and direct a spirit of inquiry in the child,

Part II.
Section I.
KINDERGARTEN.
—
Froebel's
Kindergarten.

and of a number of simple manual exercises, termed "Occupations," which represent the first steps in the training of both hand and eye.

The spirit of the Kindergarten is sympathetically described in the following words of the late Sir Patrick Keenan:—"The most innocent, the most hopeful picture of all educational life, with its school appliances lovingly called 'gifts,' and the school exercises fittingly called 'plays': no set tasks intrude, no hard lessons chill. Spontaneously the faculties dawn, the affections ripen, the senses quicken." He regards the Kindergarten as "a pleasant initiation to what is still popularly called the drudgery of school life."¹

It is essential to keep in view that, in Froebel's idea, Kindergarten teaching is a thing altogether apart from school-work. It should begin at home, when the child is but a few months old; the mother being the first teacher. When about three years old, the child begins to attend the place of regularly organised Kindergarten teaching,—we must not speak of it as a school,—where the system is carried out by a skilled teacher. Kindergarten teaching should thus cover the entire period from the first dawn of intelligence in the child up to the close of the sixth or seventh year of age. During that period, nothing in the nature of formal instruction, even of the most elementary character, in reading, writing, or any other such school subject should be attempted; all such instruction should be reserved for the school, as distinct from the Kindergarten, and the children should not go to school until they are at least six or seven years old. By those who have adopted Froebel's ideas in their integrity it is maintained that much more rapid progress is made in the various branches of school-work when the children bring to them faculties exercised and quickened by the congenial discipline of the Kindergarten.

Misconceptions.

Before proceeding to state in detail our recommendations under this head, we think it useful to make some observations in reference especially to two particular points in the Kindergarten system, as to which there is reason to apprehend that the essential nature of the system is not always properly understood.

We may, we fear, to a large extent apply to Ireland what a recent writer on Kindergarten teaching has said of England:—

"The educational public are still inclined to regard a long list of games and occupations as the chief addition which Frederick Froebel has made to the cause of education. Doubtless a few of his leading theories have been expounded in our language, but they have not as yet much practical influence on the organization of Kindergartens and Infant Schools. Theory and practice stand aloof from one another. Popular attention is mainly concerned with the various Kindergarten toys and games. To meet the demand, manuals on these subjects have been multiplied amongst us. Manuals on the occupations . . . are not to waste the student's time, because they prescribe an amount of unmeaning work, not in accordance with the educational purpose to be served. . . . The Kindergarten has often degenerated, even in the country of its origin (Germany), into a place where children are pleasantly amused, folding paper, playing games, &c., and English people may be excused if some misconceptions concerning the aim and object of the institution are still dominant amongst them."²

The "Gifts" and "Occupations."

In our statement of the points that stand prominently forward in Kindergarten teaching, we have referred to the materials and opportunities with which it provides the children as a means of developing their natural powers. Amongst these are the "Gifts" and the "Occupations," already mentioned. The Gifts and the Occupations were most carefully planned by Froebel, each for a specific purpose, and their respective parts in the working of the system, when it is in the hands of a teacher who has really grasped its principles and is imbued with its spirit, are of high educational value. Through their use, under the direction of a competent teacher, habits of observation are gradually formed; the first lessons in the importance of accuracy, even in matters of apparently trifling detail, are unconsciously learned; an intelligent interest in many external objects is awakened; the sense of symmetry and the sense of form are cultivated; and the constructive powers of the child are intelligently directed and developed.

But in the working of the system it is easy to give undue prominence to the Gifts and Occupations; and the tendency of unskilful teachers to do so, and even, from a total misconception of the purpose of these Gifts and Occupations, to reduce the whole system of Kindergarten teaching to a mere instruction of the children in the working out of a set of prescribed exercises, has to be carefully guarded against. The Gifts and Occupations are merely the means, or rather they are but some of the means, which the teacher is

¹ Address delivered before the Social Science Congress, Dublin, 5th October, 1891, page 9.

² The Kindergarten Principle, its Educational Value and Chief Applications, by M. J. Lynchinski, Superintendent of Method in Infant Schools under the School Board of London (Seventh Edition), London, 1893, pages 1-3.

to employ, in leading the child to begin to think for itself, act for itself, and rely upon itself, and yet at the same time to subordinate its own mere personal interests to those of the little community of which it is a member. They afford opportunity for exercises in construction, and, to a certain extent, exercises in design, to be worked out by the children. But the Kindergarten system is sadly misapplied when this portion of it is perverted into a mechanical reproduction of set exercises. The mere reproduction of anything is inconsistent with the fundamental principles of the system: children exercise little thought in merely copying what is put before them. So-called Kindergarten work done on such a line, is not, in any true sense of the word, Kindergarten work at all. And not only does it deprive the children of practically all the advantages of real Kindergarten teaching, but it gives rise to a prejudice against the system, which very naturally obstructs the introduction of it into the schools.

Again, it seems to be very frequently overlooked that, in Froebel's idea, one of the most prominent features of Kindergarten teaching is the use which should be made of natural objects and of natural phenomena, as a means of education even in its earliest stages. A garden, or plot of ground, is a leading feature of the method of education formulated by Froebel. He attached the utmost importance to having the children brought directly into contact with nature. He did so, not only because this afforded an easy means of laying the groundwork of a sound method of instruction in natural science, but also because, to use his own phrase, "from every object in nature there is a way to God." It was also a principle of his that children are born with a great capacity for the enjoyment of the sights and sounds and changes which nature so abundantly displays. The child's sympathy with flowers and birds and animals should be fostered and directed. And it must never be forgotten that in all this, the important point is, not that the children should be merely talked to about these objects, or encouraged themselves to talk about them, but that they should be in contact with them, and be occupied with them. As it has been well expressed by the writer on the Kindergarten principle from whom we have already quoted, it is not the dry anatomy of the facts of nature, but the personal relation in which the children find themselves to natural objects, that awakens their interest in the observation of nature and of natural phenomena, and makes this available as a means of education.¹ If this use of the objects and of the facts of nature as a means of education be left out of sight in Kindergarten teaching, "the whole organisation lacks a life-giving principle; its parts have but an accidental and loose connection; the occupations and gifts are not linked together by any vivifying thought."²

The Kindergarten system in its integrity, as it was conceived by Froebel, and as it has been carried out in many places in Germany and elsewhere, has never been adopted as a part of the system of National Education in Ireland, or of the corresponding systems of elementary education in England and Scotland. This would seem to be sufficiently accounted for by two leading features of the Kindergarten method as thus understood: (1) the exclusion from its scheme of work of all instruction, even in those subjects of elementary education, reading, writing, and arithmetic, commonly known as the "three R's"; and (2) the individual character of its teaching, with the consequent necessity for the employment of a very large staff of teachers in proportion to the number of pupils. In other countries also, and probably for the same reason, it would seem to be generally recognised that in the matter of education the work of the State begins only with the school.

But although the Kindergarten, in the full and original sense of the word, has not found a place in the school system either of Ireland, or of England or Scotland, the work of the Infants School has, in Ireland to a certain extent, and to a much greater extent in England and in Scotland, been brought within the influence of Kindergarten ideas. The evidence which we have received as to the beneficial results of this influence upon the schools is emphatic and conclusive.³

In Infants Schools and classes the original idea too often was to instruct young children as rapidly as possible in the elements of reading, writing, and arithmetic: and

Part II.
Section I.
Kindergarten.

Natural
Objects and
Phenomena.

Kindergarten
and the
School.

¹ *The Kindergarten Principle* (Lyschinsky), London, 1893, p. 32.

² *Ibid.*, page 3.

³ *Ibid.*, vol. ii, *Reaper*, 5034; *Personal Growth*, 6154-5; *Milk*, 2483-5, 5510-14, *Berney*, 9102-6; *Hawthridge*, 10263. *Ibid.*, vol. iv, *Mawson*, 21800-3, 21901-7, *S. M.C. Murray*, 22275-9; *Miss Brander*, 22275-82, 22367-93, *Scougal*, 22637-32, *Miss Stevenson*, 22632-6; *Miss Thomson*, 22419-20, 22423-30, *R. Cobler*, 22921-2, *Makaffy*, 20200-3, 22242, 22293-6.

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Section I.
KINDERGARTEN.

it is to be regretted that in many cases this object is the one still aimed at. In a school worked on such a principle, attention is practically confined to this one object, and any time that is given to occupations designed to turn to account the natural instincts of the children is apt to be regarded as so much time wasted. But it has been found by experience that when the work of those schools is modified by the liberal introduction of ideas borrowed from the Kindergarten, more scope is given to the energies of the children, an interest in the instruction which they receive is awakened, their faculty of sustained attention is sharpened, and their whole school life is made brighter and happier. There is overwhelming testimony to show that all this is done without retarding their proficiency in the "three R's," but rather with the result of advancing it.

Value of
Kindergarten
teaching.

The following opinion of Sir Joshua Fitch represents the general scope of the evidence received by us on this point in England and Scotland:—"All experience shows that if the teaching of the elements of reading, writing, drawing, and counting, are judiciously alternated with the playful Froebelian exercises, the children make in the long run better progress, even in the elements of instruction, than heretofore."

Mr. Hooper, one of Her Majesty's Inspectors of Schools in England, gives similar testimony.—"There is," he says, "no question about the value of the Kindergarten occupations for the younger children: they have been introduced practically in all infant schools in England, and especially in the large towns. . . . I find that all the teachers, managers, and inspectors are amply satisfied with the results. I have never come across any teacher in any infant school who, having once adopted the Kindergarten occupations, has any desire to go back to the time when there were no such occupations, and when the whole time was spent over reading, writing, and arithmetic."

Another of Her Majesty's Inspectors, Mr. Bernays, speaking especially for the Cumberland district, including the Counties of Cumberland and Westmorland, in which there are many small rural schools, bears very decided testimony to the advantages resulting from the introduction of Kindergarten teaching. "The system of Kindergarten," he says, "has been introduced since I first began my work as inspector, and I can certainly speak very highly of the effect it has had, both in training teachers, and in developing intelligence, and in giving the relaxation which was very much needed. The intermixture of Kindergarten with the ordinary work, reading, writing, and arithmetic, is the best system possible."

Recommendations.

Accordingly, whilst, in view of what has been done in other countries, we do not venture to recommend the introduction of Kindergarten teaching, pure and simple, as a part of the system of National Education in Ireland, we think it of the utmost importance that all infant instruction, whether in separate Infants Schools, or in the infants classes of other National Schools, should be permeated by the Kindergarten spirit, and that the recognised methods of Kindergarten teaching should as far as possible be adopted.

We are of opinion too that the Kindergarten principles and methods have an important bearing, not merely on the work of the Infants Schools and classes, but on all the work of the school.

National
Schools
generally.

As regards the National Schools generally, we recommend that the instruction of infants,—that is, roughly speaking, of children under seven years of age,—should approximate as nearly to the Kindergarten ideal as the circumstances of the case will permit. This approximation can, of course, more easily be effected in schools where the children under seven are sufficiently numerous to form a class, or a department, by themselves, under the charge of a special teacher or special staff of teachers. In such cases, we are decidedly of opinion that the education of these children, so far from consisting exclusively of instruction in the "three R's," should never begin with such instruction, but should, at first, be of a purely Kindergarten character, and should continue throughout to consist largely of Kindergarten exercises.

We make this recommendation not alone on the general grounds already stated, but also for the special reason that we think it important that teachers should realise, from the very beginning of a child's education, that education, in the true sense of the word, is at once broader and deeper than mere formal instruction in the "three R's," and that such instruction is only one,—though, no doubt, a very important one,—of the many possible instruments of education. It cannot be too strongly emphasised that the

¹ *Evid.*, vol. ii., 6498.

² *Evid.*, vol. ii., 5034.

³ *Evid.*, vol. ii., 9104.

function of Kindergarten exercises in Infants School education is not merely to provide an agreeable relief to severer but more important studies, but to be real factors in the all-round education of the child.

We do not think it possible to lay down a hard and fast rule as to the age when instruction in the "three R's" should begin. Much depends on the manner in which such instruction is given, but we consider, on the one hand, that some introduction of the elements of reading, writing, and arithmetic is not necessarily incompatible with a faithful adherence to Kindergarten principles, and, on the other hand, that the omission, or partial omission, of these subjects in the education of children at or under six years of age need not retard their subsequent progress in them.

In the foregoing recommendations we have had more fully in view the case of schools where the infants are sufficiently numerous to justify the setting aside of a teacher or teachers for them alone. But the recommendations apply with scarcely less force in the numerous cases where there is but one teacher for the infants and for Classes I. and II.

In Ireland, however, there are many schools in which one teacher has to teach all the classes, from the Infants Class up to Class VI. In such circumstances it is not to be expected that the Kindergarten programme should be followed in all its fulness in the instruction of the infants and younger children; the benefit to be derived in these cases from an intelligent study of Kindergarten ideas on the part of the teacher is to be looked for in the applicability of those ideas to the work of the school as a whole, rather than to the special work of the Infants and other lower classes. This does not at all imply that the interests of the younger children should be overlooked, or should even be subordinated to that of the more advanced classes. It seems to us that but little profit can result to very young children from spending a long day in school if they are simply left to their own devices, while the teacher concentrates his attention on the higher classes. Definite work for a much shorter school day would be in every way more profitable to the younger children, provided that it were guided by an enlightened understanding of their needs and capabilities. In the time set free by an earlier dismissal of the younger classes the teacher would be able to give his undistracted attention to the work of the more advanced pupils. These pupils, on the other hand, might, not merely without loss, but rather with profit, devote to some independent work, specially laid out for them, the time during which the teacher is occupied with the younger children. With the view of facilitating such a distribution of the teacher's efforts in the case of small schools, we suggest it as well worthy of the consideration of the Board of National Education whether in the case of a school with only one teacher, the rule by which infants may be dismissed early might not with advantage be extended to some others of the junior classes.

We do not think that it is within our province, or that it would serve any useful purpose, to describe in detail the proper methods of conducting an Infants School on Kindergarten principles. It is obviously to be desired that the management of these schools should eventually pass into the hands of teachers adequately trained in the methods of the Kindergarten and fully imbued with its spirit. With this end in view, we again refer to this subject in the section on Training Colleges, in the third part of our Report. No part of a teacher's preparation is less a matter of reading or instruction, or is more a matter of prolonged and thoughtful training, than the preparation for the charge of infants, and we cannot too strongly express our conviction of the injudiciousness of the somewhat prevalent practice of relegating the instruction of infants to the charge of monitors or other imperfectly trained teachers. On the other hand we think it possible that monitors and pupil-teachers may render useful assistance in an Infants School when acting under the direction of a capable mistress, and may themselves at the same time receive the best of all preparations for their future work.

So far, we have dealt with Kindergarten methods as applied in the teaching of the infants and other younger children, but, as we have already indicated, Kindergarten ideas are of value quite outside the range of that special department of school-work. In connection with the subjects of our inquiry, the applicability of those methods to the school-work of older children is even more important. We consider that the idea of education embodied in the Kindergarten system is one to be kept in view at all stages of school life, and that therefore a study of its principles and some knowledge of its methods should be regarded as indispensable elements in the training of all teachers, males, as well as females, even though they should never have occasion to teach an Infants class.

Part II.
Section I.
KINDERGARTEN.

Schools with
one teacher.

Teachers.

Range of
Kindergarten
Ideas.

All the methods of the Kindergarten converge on one supreme object, the education of the child, or in other words, the development of all the faculties of the child in an orderly and harmonious fashion. The activities of the Kindergarten, therefore, range over a wide field. A child naturally seeks scope for its instinct of sympathy, its love of nature, its delight in rhythm and movement, its inquisitiveness, its desire to create. The exercises of the Kindergarten have regard to all these instincts, and, whilst providing for their legitimate satisfaction, turn them to educational account. It is in this way that the several characteristic features of the Kindergarten have their origin—the imitative games, with their sympathetic representation of natural incidents; the singing; the story-telling; the tending of plants and the loving care of pets; the “Gifts” presented to the children, which they examine with natural curiosity, and in doing so, acquire certain fundamental conceptions of form and matter; and the “Occupations” which provide them with material for the exercise of their growing power of construction. The exercises of the Kindergarten, combined, as they are, with due regard to proper sequence and proportion, constitute a complete and well-reasoned scheme of education for younger children. We would point out that the conduct of school-work for older children may advantageously be influenced by the same considerations.

We assume that after the age of seven, instruction in the “three R’s,” must form the staple of school-work; but it cannot be seriously contended that these subjects alone, even with the addition of grammar and geography, provide adequate exercise for the faculties of a child, or that the restriction of the work of the school to this somewhat limited and often uncongenial field of effort is calculated to produce a feeling of joy and satisfaction in school life. Nor do we agree with those who think that undisciplined play out of school hours, or, what is still commoner, aimless lounging, is any adequate substitute for the corresponding activities of the Kindergarten. We dissent even more strongly from the view that work which a child may do, whether on the farm, or in the factory, or at casual occupations, may be regarded as an equivalent for educational manual exercises in the school.

The Kindergarten idea applied to school-work generally.

On the ground, then, no less of general educational principle than of practical utility, we shall, in the following sections of our Report, make certain recommendations as to the manner in which we think the various Kindergarten exercises may be continued and developed in the classes for older children. These recommendations will be found in the sections on Educational Handwork, on Drawing, and on Elementary Science: all of these we regard, educationally speaking, as developments of different sides of Kindergarten work, and therefore essential elements in any system of education for older children which is to approximate to the Kindergarten ideal of completeness. Manual exercises for hand and eye training, followed by woodwork or some other form of Sloyd teaching, are, or should be, the logical developments of specific Kindergarten Occupations; Drawing is the continuation of another; Elementary Science, in method no less than in subject matter, is a development of the child’s dealings with nature in the Kindergarten.

We have thought it right to direct special attention to these sections, not only because they relate to subjects of practical instruction, but because they give a practical exposition of ideas which, as appears from the evidence put before us, are largely unfamiliar in the National Schools of Ireland. But there are other features of the Kindergarten the extension of which we regard as scarcely less essential elements of a complete education for the older children. We refer to the large part played in the Kindergarten by singing, and by rhythmical movement of various kinds. We cannot regard the curriculum of any school as satisfactory which does not make reasonable provision for appropriate physical exercises, and for progressive advancement in the knowledge and practice of vocal music. These subjects, the latter particularly, do at present receive attention in many of the primary schools of Ireland, and they are cultivated in some of these schools with marked success, but we would desire to see both one and the other, if possible, included in the curriculum in all cases. We also think it important that they should be taken, not perfunctorily, but with a due appreciation of the ends they are to serve in a well-balanced scheme of education.

There is one feature of Kindergarten teaching, which is of special importance in its application to the work of the higher classes. We refer to the manner in which the songs, the games, and the occupations of the Kindergarten from time to time centre round some common idea, and are made to illustrate and reinforce each other. We shall have occasion to indicate in succeeding sections of our Report how this principle applies in the case of several subjects with which we deal specially; how, for example, drawing and

manual exercises are intimately related to each other, and how their effectiveness as instruments of education can be greatly enhanced when this connection is kept in view. We shall also point out how instruction in elementary science, if properly given, may be made to bear upon other branches of school-work, and contribute to their efficiency.

But we wish specially here to insist upon the importance of this principle of the interconnection of school subjects in the case of the "three R's." We believe that the instruction in these subjects can be made more real and more effective when the pupil is made to realise that they are not merely abstract studies, but have a direct applicability to other subjects, and to the real needs of life.

Arithmetic, for example, acquires a new interest for the children when it is applied to the solution of some problem that arises in the course of other studies, or when it is linked in some way with their every day experience. Reading is more valued when it is found to be a key to information on matters as to which their curiosity has already been aroused by other lessons. Composition is more interesting and gives a better mental training when it consists, not in writing essays on abstract subjects, about which the children have really nothing of their own to say, but in the careful statement of facts of their own observation and experiences.

We conclude, therefore, that if, in pursuance of the ideal of complete education revealed in the Kindergarten, subjects of practical instruction such as those referred to above receive, as we recommend they should, greater prominence in the school curriculum, progress in the "three R's" need not be appreciably less, and the work done in them may have a greater intellectual and practical value. They may become in themselves subjects of Practical Instruction.

But to attain this end, it is essential that the Kindergarten ideal should be kept steadily in view at all stages of education. The various subjects of practical instruction must be regarded as integral parts of the school-work, and not merely as subsidiary subjects, to be taken in such fragments of time as can be spared from instruction in the "three R's." These in themselves should be regarded only as instruments of education.

Ability to name mechanically the words in a reading book is of little value as an end in itself. It is only a means to an end, and the duty of the school is not completely discharged until the child has been put in the way of applying its knowledge. Further, it is neither necessary nor desirable that the mechanical power of reading should come first, and its practical application after. Rather, the two objects should be associated from an early stage. In the same way, writing and arithmetic should not be treated in the school as ends in themselves, but largely as valuable instruments for rendering knowledge clearer and more exact, and the practical application of them should be kept in view from a very early stage.

It appears to us to be a fair inference from the evidence that exclusive or almost exclusive devotion to the "three R's" tends to defeat its own ends, and we consider that even in these subjects better results might be attained if a broader conception of the true aim of education prevailed. We consider that the method of inspection at present in force in Ireland and the mode of assessing the value of the work done in the schools tend to obscure this broader conception of education, and to give undue prominence to merely subordinate aims; and accordingly in the third part of our Report we suggest some modifications of the system, which, if carried out, would, we hope, do something to redress the balance.

II.—EDUCATIONAL HANDWORK.

Except in the case, already mentioned, of the Kindergarten Occupations in the Infants Classes, it is only within comparatively recent years that Handwork—whether of an elementary character, such as paper-folding and cardboard work, or of a more advanced character, such as woodwork,—has been introduced, with the sanction of any public educational authority as a part of the work of primary schools in the United Kingdom. But the view that such manual exercises should have a place in the curriculum of a primary school is far from being a new one. Even in the seventeenth and eighteenth centuries this view was warmly advocated by not a few of the leading educational reformers of the time, including Pestalozzi.

The main ground, and in most cases the only one, relied upon by many of those who first advocated the introduction of manual exercises into the schools, was that the training given by such exercises tended to equip children of the artisan and labouring classes with that manual skill which in after-life would be of value to them in the occupations by which they were to earn their bread.

Part II.
Section II.
EDUCATIONAL
HANDWORK.

But even from the beginning it was seen by some educational reformers, and it is now being recognised more and more, that such exercises have a claim to a place in the curriculum of the primary school, quite independent of that on which their introduction might be advocated in the special interests of those children who are to earn their livelihood by manual work.

In the first place it is felt that even primary education has a scope wider than the teaching of reading, writing, and arithmetic, or even than the development of the intellectual faculties in general, and that some cultivation of manual dexterity for its own sake may fairly claim to be a proper object of every well-ordered system of primary education. It is maintained too by writers of authority that the cultivation of manual dexterity resents advantageously upon the intellectual faculties, and is an important aid to their development. Recent physiological research gives support to this contention. It is stated by high authorities in this department of research that the development of what are known as the higher brain centres is intimately connected with the development of the motor centres which control the action of the hand, and which in their turn depend for their development on the exercise of that organ. In any case it is a matter of experience that manual exercises of the kind to be described in this section of our Report do, in fact, constitute an instrument in some respects more suitable and convenient than other school studies for attaining certain intellectual and moral results which are of high value in the training of the child.

Educational
aspect of
Manual
Training.

What these results are, and in what manner they are to be attained, will be more conveniently described in connection with the particular exercises dealt with in the sequel.¹ But we may here, for the sake of clearness, distinguish, in accordance with the view now generally accepted, between two objects aimed at in the practice of manual exercises in school,—the direct and the indirect. The direct object is the acquirement by the children of a general manual dexterity, which shall render the hand a more efficient servant of the brain in all circumstances. It is to be observed that even from this point of view, it is a general manual dexterity that is to be aimed at, not the special dexterity suitable to a particular trade. The indirect object is the mental and moral discipline referred to above. Of the two objects, although the first is not to be neglected, and although it cannot be neglected if the second is to be attained, the second is, for school purposes, incomparably the more important, and must be the main consideration in determining the course of instruction to be pursued. Experience shows that it is this aspect of school manual exercises which teachers are most likely to overlook, and it therefore requires to be dwelt upon with greater insistence. We shall have frequent occasion to refer to it in the following pages. For convenience we shall designate it the educational aspect of manual training.

History of
the move-
ment.

In the early history of the Manual Training movement, however, the distinction which we have just pointed out was only fitfully recognised, and even the direct object of school manual exercises was not always correctly apprehended. The only view that was then at all generally acted upon, was that such exercises provided a form of training useful to children of the artisan and labouring classes.

The German
"Schools of
Industry."

In accordance with this idea, schools known as Schools of Industry were established during the last century in many parts of Germany. These were established as primary schools; but—as is lucidly pointed out in an instructive Memorandum kindly prepared for the use of this Commission by Mr. M. E. Sadler, of the English Education Department²—the system which these schools embodied was quite at variance with sound principles of primary education, and it is not to be wondered at that they failed. Two causes have been assigned for their failure. First, it has been pointed out that, in the excess of their zeal for training in manual work as such, they altogether neglected to turn this training to account for the attainment of any object of a general educational character. Again, the training in manual work given in the German Schools of Industry is said to have been a form of technical instruction, adapted to the requirements of particular trades, and therefore quite out of place in a primary school, where such specialised instruction was given prematurely, and to the disadvantage both of primary education and of technical secondary education.

Pestalozzi.

It was on the score of the industrial or economic advantages of manual exercises, rather than in view of their advantages for the purposes of general primary education,

¹ See especially pp. 18-21, 25, 29, 30.

² Appendix A, V. Memorandum on Manual Training for Boys in Primary Schools in Foreign Countries; by M. E. Sadler, Director of Special Inquiries and Reports to the Committee of Council on Education.

that Pestalozzi at first advocated the introduction of this branch of school-work. In his later writings, however, he modified his earlier view, and laid stress on the general educational purposes that could be served by the special training given by manual exercises in the school. But his change of view came too late. We quote from Mr. Sadler's Memorandum:—

"This side of Pestalozzi's teaching received comparatively little attention, at least so far as the curriculum of the elementary school was concerned. . . . In the sphere of primary education, manual training had become identified with the premature technical instruction attempted in the Schools of Industry. Pestalozzi's followers therefore did not press forward their master's view that manual training and other forms of teaching should be combined together.

"The result was that the primary school, though owing the greater part of its improvement to the influence of Pestalozzi and his followers, gradually became too literary in its curriculum, and the last thirty years have seen increasing efforts to repair defects which would never have become serious had Pestalozzi's doctrine been adopted and applied in its entirety."

The last thirty or forty years may be taken as the period within which the movement now in progress for the introduction into primary schools of a system of manual exercises arranged with a view to their general educational advantages, had its beginning. It is convenient to follow in outline Mr. Sadler's instructive Memorandum in stating the present position of this movement in various countries. The Memorandum deals only with countries outside the United Kingdom.

FINLAND.—Within the present century, Finland was the first country to give a recognised place in the curriculum of the primary school to woodwork and other manual exercises. That it did so was in great measure due to the influence of Uno Cygnæus (1810-1888). His project for the re-organization of the primary schools of that country was carried into effect during the years 1858-1866. Cygnæus laid great stress on the general educational discipline given by manual exercises, as distinct from the economic advantage to be derived from the early acquisition of manual skill. In 1866, instruction in some branch of manual work, such as woodwork, basket work, tin work, or iron work, was made compulsory in the Training Colleges for male teachers, and in all primary schools for boys in country districts.

NORWAY.—In Norway this branch of school-work was first recognised in the official programme in 1860. It is only within recent years that much attention has been given to the usefulness of a system of manual exercises as a branch of general primary education. Since 1891 it has been compulsory in all Norwegian Training Colleges and town schools.

SWEDEN.—In Sweden the movement for manual work in the schools was at first an effort to revive the old Swedish tradition of domestic industry. Fortunately the experience of Finland led the Swedish authorities to encourage the strictly educational side of the work, and to connect it, under the name of Sloyd, with the elementary school curriculum.

In 1875, the well-known training school for teachers of Sloyd, at Näsä, not far from Gothenburg, was established by a local landowner, Herr Abrahamson. The work of this training school, which for years has been under the direction of Herr Abrahamson's nephew, Herr Otto Salomon, has been one of the most important agencies in disseminating throughout Northern Europe a knowledge of the theory and practice of woodwork as a branch of the work of the primary school. It is stated that 2,400 teachers of Sloyd (including 600 foreigners) had been trained at Näsä down to 1896.

In 1896, instruction in Sloyd woodwork was given in 2,000 schools in Sweden, and in all the seven Training Colleges of that country.

DENMARK.—For some years after the introduction of manual work in the Danish schools, the industrial or economic view of the subject prevailed. The results are said to have not been satisfactory. In 1883, greater prominence was given to the educational idea. But this branch of school-work does not appear as yet to have made much progress in Denmark.

HOLLAND.—Under the Code of 1891, manual school-work is a compulsory subject in the Training Colleges for men. There are also courses to enable older teachers to acquire skill in giving instruction in manual work.

BELGIUM.—Instruction in manual work, such as woodwork, is given in many of the Belgian Training Colleges, but the subject is not obligatory either in the Training Colleges or in the schools. In many districts, however, advantage has been taken of the law of 1884, which empowered local authorities to introduce manual work as a school subject.

AUSTRIA.—Since 1883 this subject has been recognised as an optional branch of school-work in Austrian town schools. Of late years, special attention is being given to it in Vienna.

Part II.
Section II.
EDUCATIONAL
HANDWORK.

Mr. Sadler's
Memorandum.

Finland.

Sweden.

Denmark.

Holland.

Belgium.

Austria.

Part II.
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EDUCATIONAL
HANDWORK.

Hungary.
Germany.

HUNGARY.—In Hungary, about twenty years ago, a strong movement was started in favour of manual work in elementary schools. But the object in view was the encouragement of domestic industries, and the movement ended in failure. Of late, an effort is being made to revive the movement, the educational idea now receiving prominence.

GERMANY.—In Germany, the false start originally made by the establishment of the Schools of Industry naturally put a serious obstacle in the way of the introduction of woodwork and other manual exercises as a part of primary education. But now, throughout Germany, there is in progress a movement for this purpose, thoroughly inspired by the educational idea, and this movement is steadily gaining ground.

Until very recently, the movement in Germany had to depend exclusively on private effort. Its chief support came from an energetic Association, the German Association for Manual Work for Boys. A great number of the best teachers of this branch of school-work in Germany have been trained in a Training College established by this Association at Leipzig, under the directorship of Dr. Coetzer, who is one of the leaders of the movement throughout Germany. This College is open to foreign students, and has been largely attended by them.

The movement in Germany has at length won its way so far as to have its claim recognised for State-aid to the work it has undertaken to promote. The Governments of Prussia, Saxony, and Baden, now make State contributions in aid of this branch of school-work.

Manual exercises of various kinds have been introduced, as yet, into only 600 schools in Germany; many of these are private schools. Woodwork is taught in 300 schools, metal-work in 43, cardboard work in 463. In many of the German Training Colleges provision is now made for training the teachers to give instruction in these and similar subjects.

Switzerland.

SWITZERLAND.—In Switzerland the movement began in 1832. Already it has made considerable progress. Of the twenty-five Swiss Cantons, nineteen have made provision for woodwork and other manual exercises in the schools. The expenses are borne to a large extent by public funds. The Federal Government bears the whole cost incurred by the Training Colleges in the special training of teachers for this department of school-work.

Except in one or two Cantons, woodwork is not an obligatory subject in the schools of Switzerland. In some Cantons, however, it is obligatory in the Training Colleges. Courses of instruction in it are given at various centres by the Swiss Manual Training Union, and these are attended each year by about a hundred teachers.

France.

FRANCE.—In 1882 a law was passed making manual work such as woodwork, involving the use of the principal tools, obligatory in the elementary schools of France. It would seem, however, that this was done without the requisite preliminary steps being taken. Although the enactment was a compulsory one, nothing seems to have been done for the special training of the teachers: it is sufficiently obvious that in the absence of very ample provision for such training, the carrying out of such an enactment was a matter of absolute impossibility. Besides, there was another fatal element of weakness. At the outset, no doubt, great prominence was given to theoretical declarations that manual exercises were to be introduced into the schools in view solely of the importance of such exercises for the purposes of general education, and not as a mere preparation for manual work in after-life. But this view was frequently overlooked in the actual working of the system, in so far as the system came into operation at all. In practice, it was worked mainly with the view of preparing school-boys for the manual occupation by which they were to earn their bread. Now, however, the educational idea is beginning to get prominence. In Paris, a programme admirably arranged on educational lines is in operation in the city schools. Throughout the country as a whole, the law of 1882 would seem to a large extent to have remained a dead letter.

United States.

UNITED STATES OF AMERICA.—In the United States the development of school instruction in woodwork and other such manual work has been very rapid during recent years. This is so especially in the States of New York and Massachusetts. The idea of the general educational value of such instruction, as distinct from its merely economic or industrial utility, seems to be kept well in view.

General results.

It is clear from the information thus given in Mr. Sadler's Memorandum, that, outside the United Kingdom, only moderate progress has as yet been made in any country, with

the exception of Finland, Norway, and Sweden, towards the introduction of manual exercises in any systematic form as a part of the general educational work of the State-aided primary schools.

The information we have obtained through the Reports¹ of the Assistants whom we were enabled to send to visit schools in Belgium, France, Germany, Holland, and Switzerland, leads substantially to the same conclusion.

These Reports, however, are specially instructive. For, in addition to the valuable information contained in them in reference to many incidental points of great practical utility, they make two things abundantly clear. First, they show that in each of these countries there is a number of earnest workers, profoundly impressed with a sense of the high educational value of a well-organised system of manual training in a primary school. Again, we learn from them that in each country, the leaders of the movement are sustained by sufficient support from amongst the public to have secured practical recognition for this branch of school-work in some towns or districts of each country. It would seem that the mistakes which were made in the earlier experiments are being corrected, and that progress is being made, however slowly, in proportion as misconceptions are removed, and clearer views obtained of the true function of manual exercises in a scheme of elementary education.

It will, we think, be convenient to place under distinct headings the further observations which we have to make upon the subject of Educational Handwork. Under the first heading, "Hand and Eye Training," we shall deal with exercises of a simpler character, such as paper-folding and the like. Under the second heading, "Woodwork : Sloyd," we shall deal with exercises of a more advanced character.

HAND AND EYE TRAINING.

A very few years experience of the working of the new methods introduced into the Infants School from the Kindergarten system were sufficient to show that, through the special training which they give to the eye and to the hand, the Kindergarten Gifts and Occupations serve an educational purpose of great utility. It came then to be recognised as desirable that the range of usefulness of this new branch of school-work should be extended, by the introduction of similar training, in some more advanced form, into the higher classes of the school.²

In England, the introduction of Educational Handwork of any kind in classes outside the Kindergarten department, was first authorised by the State in 1890, when Woodwork was recognised as a school subject in the Standards above Standard IV.³

Soon afterwards, it came to be felt that there was a gap between the Infants Classes and the Standards V. and VI., and courses comprising various graded manual exercises suited to the capacities of the children were devised to fill this gap.⁴ To the courses thus introduced we find it convenient to apply the term, "Hand and Eye Training." We have found this term so used in several places in England, especially at Birmingham,⁵ and, although it does not fully indicate the educational purposes and results of the exercises in question, nor indicate in any way their intermediate character, between the Kindergarten Occupations in the Infants Classes, and the Woodwork and similar manual work in the upper Standards, we adopt it as a convenient expression, already in recognised use in the sense in which we propose to use it.

In the Irish National Schools, the use made of the Gifts and of the Occupations of the Kindergarten system in the Infants Classes is not followed up by any organised course of Hand and Eye Training in the other classes of the school. The subject being thus, so far as Ireland is concerned, a practically unknown one, we consider it essential to state distinctly the objects to be aimed at in any course of Hand and Eye Training in primary schools, and the lines on which this special branch of school-work should be carried out; we shall do this, as far as possible, in the words of a number of witnesses whose evidence we have received, and who are eminently entitled to be considered experts in relation to it. For the same reason we think it necessary also to describe in somewhat full detail the nature of some of the exercises by which this training is given in schools which we visited in England.

Part II.
Section II.
EDUCATIONAL
HANDWORK.
—
Reports of
Assistants.

Division of
subject.

A develop-
ment of the
Kindergar-
ten.

England.

The term
"Hand and
Eye Train-
ing."

The objects
aimed at.

¹ Appendix B, Reports of Assistants.

² *Ibid.*, Vol. II., p. 66, 6615.

³ *Ibid.*, *Glossary*, 9915-6.

⁴ *Ibid.*, *Outline*, 6893-5, 6963-77, 7084-90; *Handwork*, 10081-10105.

⁵ *Ibid.*, *Notes*, 3162-7.

Part II.
Section II.
EDUCATIONAL
HANDWORK.
*Hand and
Eye Training.*

The object of all such exercises is to train the eye to accuracy and rapidity in observation, the hand to skill in execution, and the mind to a sense of the importance of truthfulness in work. These exercises also teach the children not only to observe, but to interpret what they observe, and to describe it. They cultivate habits of neatness, of orderly arrangement, of accuracy in measurement, of attention to small and apparently trifling details—habits which cannot fail to be of use to the children in after-life no matter what may be the trades, professions, or occupations in which they may be engaged, or the positions which they may have to fill. The courses of Hand and Eye Training have the further advantage of providing a series of educational exercises especially useful for children of the class described to us by many witnesses as the less "bookish" class: to such children these exercises give a chance of excelling, by giving them something to do which they may be able to do well. Experience has shown that the new occupation thus given has, in addition to its many direct advantages, the effect of arousing dull children to an earnest, and often successful, effort to overcome the difficulties that retard their progress in the other branches of school-work.¹

Materials.

For the exercises in Hand and Eye Training, various materials have been utilised: the principal being paper, plain and coloured; cardboard; wire; and modelling-clay.

Courses.

In England, where special attention has been directed to the organisation and development of this branch of school-work, the courses followed in different districts, and sometimes even in different schools within the same district, differ widely from one another, that is, they differ in the special exercises by means of which the training is given; but all the courses that we have seen in operation are controlled by the same general principles. In all cases of successful teaching, the results we have above enumerated are obtained. In some cases, however, the importance of accuracy is emphasised: in others, attention is given more particularly to the cultivation of the reasoning powers: in others, again, the special aim of the exercises is the development of originality, or of artistic feeling. In most cases drawing is treated as an integral part of the work.

Mimic-
tion.

As an example of the exercises by which the educational objects of a course of Hand and Eye Training are sought to be attained, we shall take the exercises in paper-folding which we saw in operation in Standard I., in a school that we visited at Birmingham.

Paper-
folding.

In paper-folding, the object first aimed at is to bring the children to appreciate form. A child has to compare the size and form of a piece of paper held in its hand with the size and form of a representation of the same piece of paper, drawn by the teacher upon the blackboard. Different forms also are to be compared and contrasted. For this purpose, squares, oblongs, and diamonds are obtained by folding different pieces of paper, and the corresponding figures are drawn by the teacher on the blackboard. Then the child is led to compare the figures, to observe the difference between them, and to express that difference in its own words, as best it can.

Next comes another form of paper-folding exercise. Each child holds a piece of paper, all the pieces being identical in form and in size. A representation of the paper is drawn by the teacher on the blackboard, and after each child has got the paper into the position represented by the drawing, the teacher indicates on the blackboard, by an alteration in the drawing, that a certain portion of the piece of paper held by the child is to be folded over, backwards or forwards as the case may be. The children are thus trained both to interpret drawings, and to carry out the directions which the drawings convey. After they have made the first fold, so as to bring the form of the paper into accordance with that represented by the altered drawing on the blackboard, alteration after alteration is made in the drawing, each of which indicates some new fold that is to be made. As each successive direction is thus given, the children fold the paper in the way indicated. In the end, frequently to their surprise and delight, the paper is found to have assumed the shape of some familiar object.

Educational
advantages.

The educational advantages of such exercises are obvious. The powers of observation of the children are exercised and strengthened by the attention which they must give to each direction given by the teacher through the successive changes in the drawing on the blackboard. The reasoning powers are cultivated in the mental effort which has to be made in carrying out the direction given by the drawing, so as to

¹ *Evid.*, vol. II, *Beetle*, 3076; *Robinson*, 3487, 3584-84; *Diggle*, 4577; *Rooper*, 5102-17; *Ferguson*, 5978-85; *Marré*, 10425-68; *Fitch*, 4515-17.

² *Evid.*, vol. II, *Robinson*, 3487; *Diggle*, 4577; *Rooper*, 5115; *Buckmaster*, 5658-92; *Oulton*, 6930; *Bon*, 7601-2; *Nixon*, 8311-14; *Gladstone*, 9968; *Hawbridge*, 10290-5.

bring the paper into the new shape indicated. Habits of accuracy are formed by the exactness with which each fold, even the simplest, must be made. A sense too of the importance of carefulness in work is engendered by the necessity of watchfulness in comparing the folded paper, after each step in the process, with the drawing on the blackboard. The interest of the children, as we had more than one opportunity of observing, is well sustained by their rivalry in working out the exercises, and also, to some extent, by the nature of the objects represented by the paper when the folding has been completed.

It will be observed from the nature of this exercise that the lesson which it gives the children in the importance of carefulness and of accuracy is a very practical one; for if at any stage of the process a slip be made, either in the reading of an indication given on the blackboard or in the making of a fold, the child will very soon discover that the mistake, trifling as it may seem in itself, has made the completion of the exercise impossible.

Exercises in paper-folding can, of course, be given of any required degree of difficulty, from the very simplest up to the most complex. The educational usefulness of the exercises, and even the possibility of having them worked by the children at all, must largely depend upon the judgment of the teacher in selecting for the children, at each stage in their progress, exercises that will neither be too easy nor too difficult for them. A manual of directions is, no doubt, provided for the guidance of teachers; but no fixed rules can of themselves always secure the selection of the particular exercise most suitable for a class, in view of the capacity of the children and of the progress which they have already made. Good judgment on the part of the teacher is, perhaps, still more important as to the amount of guidance to be given to the children in keeping them clear of the danger of mistakes at critical points, and as to the opportunities, or even the help, that may be given to them for the discovery and timely correction of mistakes.

In each successive Standard some new material is introduced for the working of the exercises. It would be out of place here to go through these in detail; we may, however, briefly mention that in the carefully planned system of Hand and Eye Training in use at Birmingham, the exercises in Standard I. deal only with plane surfaces: paper-folding is probably the best example of exercises of this class. In Standard II. the idea of a solid is introduced by means of interesting exercises worked out with small blocks of wood in the shape of cubes and other rectangular figures. Each child in the class is provided with a small box of these, and the exercises consist in the placing of them successively in position, as directed by the teacher. In these exercises also, the directions are given by the teacher drawing upon the blackboard. A representation, in succession, of each little block as it is to be placed, is drawn by him in plan and in elevation; in the end, when each block has been placed in the position shown by the drawing, some structure, interesting in design, which the teacher had in view throughout, is found to have been formed. It will be seen that the general idea underlying these exercises is the same as that underlying the paper-folding exercise of Standard I., and that they form a simple but practical introduction to a method of representing solid forms on paper.

The course for Standard II. comprises also some interesting exercises in the making of knots and the tying of little parcels. In these exercises also, the work to be done in each case is indicated by drawings made by the teacher on the blackboard.

In the knot-tying exercises we were much struck by the ease with which a number of the children were able to interpret even those drawings that represented some particularly complicated series of interwindings. Several of the children were able from a mere inspection of the drawing, at once to state what the result would be if the ends of a string, loosely intertwined in the manner represented on the blackboard, were pulled in opposite directions,—whether any knot would be formed, and if so, what kind of knot it would be.

The Birmingham course of Hand and Eye Training has sometimes been criticised on the ground that it makes too great a demand upon the mental capacity of the children.¹ But in so far as this criticism may be to any extent well founded, it would only go to show that the unquestionably sound principles upon which this admirable system has been constructed by Mr. Bevis, the Director of Manual Training under the Birmingham School Board, have not, in all cases, been judiciously applied. It would seem to us, however, that the criticism must be taken as applicable to the occasional selection of some unduly difficult exercise by an unjudicious teacher, rather than to any defect in the system itself.

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Graduation
of Exercises.

¹ Evid., vol. II, *Hudson*, 6783-7.

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HANDWORK.
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Eye Training.*

London.

Coloured
work.

In the Hand and Eye Training Course of the London School Board, coloured work holds a prominent place. Special importance is attached to it by Mr. Vaughan, the Organising Teacher of Hand and Eye Training under that Board.¹

We may here mention that one of the points to which Mr. Vaughan directed our attention was the interesting one that, in the very early stages of children's drawing, an important advantage is secured by their having a coloured pattern to copy from, even though they are not themselves to copy it in colours. For when the figure before them is a coloured one, they are less likely than they otherwise would be, to look merely to the separate lines of which the figure is formed. The colour directs their attention to the figure as a whole; and when various parts of it are differently coloured, their attention is thus directed to the relative size of each of these parts, in relation to the other parts and to the whole. Thus, by the introduction of coloured work in the earliest stages of the Hand and Eye Training course, not merely are the children led to take an intelligent interest in contrasts and harmony of colour, and even to form for themselves little patterns and designs, but, indirectly, an important step is taken towards the correction of that most common defect in children's rudimentary attempts in drawing—the want of attention to proportion.

Results
obtained.

As to the results of the introduction of the Hand and Eye Training courses, we have received much valuable information.

We recognise that where there is a well-balanced school curriculum for general education, it is difficult to ascribe any special feature of mental or moral development to any special section of the work of the school. But many of those whose evidence we have taken in reference to the Hand and Eye Training exercises were in a position to speak of the results of the introduction of those exercises from personal knowledge of the schools both before they were introduced and afterwards. We cannot but regard it as a strong proof of the usefulness of this branch of school-work, that the testimony of those who have thus had an excellent opportunity of practically estimating its usefulness, is altogether to the effect that not only have the Hand and Eye Training exercises been effective in attaining the objects already enumerated as specially aimed at in their introduction, but that they have contributed notably to the improvement of the work of the school all round. We do not, in this, refer so much to the evidence, valuable as it is, which was given to us by teachers of the Hand and Eye Training courses. They perhaps might be supposed to take, not unreasonably, an unduly favourable view of the beneficial results of their own special work in the school. We refer rather to the strong concurrent testimony of others,—leading members of School Boards, Head Masters not themselves engaged in the teaching of these courses, Inspectors of Schools, and other leading authorities on educational subjects.²

Sir Joshua Fitch's testimony may be quoted as illustrating the general drift of the evidence to which we thus refer. "I think," he said, "that all teachers who have adopted those methods have found that they quicken the general intelligence of the scholars, and at the same time give to many scholars who are not bookish a chance of attaining excellence, and of doing something which they can do well. It has a very good influence upon their general training." And, after deprecating the exaggerations of enthusiasts who are "disposed to think that the world is going to be regenerated by turning schools into workshops," he added that "within its proper limits, the carrying forward of some form of manual instruction right through the whole scheme of education up to the secondary school is a step in the right direction, and has done distinct good."³

By Head Masters of schools, not themselves specially engaged in the teaching of the Hand and Eye Training courses, we were informed in detail of many beneficial results of this training.—It makes the children alert; it makes them more intelligent; it is entirely a training of the intelligence, and there is no getting off with guesswork; it cultivates the power of rapid observation; it makes the children, from the very first, attach great importance to exactness; it goes to develop the inventive faculty; it is a relief to the children, by varying the nature of their school-work; refreshed and brightened by it they have greater zest for their book-work; it has been found an effectual check to nervousness; it gives a dull child the chance of getting on to the same plane with smarter children, and thus gives to dull children a useful incentive to

¹ *Evid.*, vol. II., Vaughan, 6000-15; see also Appendix A, XIX.

² *Evid.*, vol. II., Robinson, 3487-503; Maynes, 4173; Diggle, 4577, 4617; Stanley, 4462; Rooper, 5102-17; Buckmaster, 5589; Nick, 6313-17, 6343; Gullon, 6930; Best, 7601; Nixon, 8311; Gladstone, 9968-70; Haseridge, 10290-5. *Evid.*, vol. IV., S. M'C. Murray, 22144-6; Scougal, 22673.

³ *Evid.*, vol. II., 6517.

exertion in the other work of the school; the exercises in it are the most popular with the pupils; it thus helps in keeping up the attendance in the school; it improves the teachers too, giving them increased tact and skill.¹

Several witnesses bore testimony to the opportunity which the Hand and Eye Training exercises afford of supplementing the instruction in other branches of school-work. Thus, drawing is intimately connected with most forms of Hand and Eye Training, even in its elementary stages;² this is plain from the description already given of the exercises which we witnessed at Birmingham. The power of correct grammatical expression is given by causing children, during the exercises in Hand and Eye Training, to express themselves with correctness, and, at least within certain limits, to use complete sentences in answering questions, as well as in describing what they see or what they do.³ In these exercises, arithmetic, too, may be incidentally illustrated and taught.⁴ Clay-modelling, which in some courses of Hand and Eye Training, comes in at a very early stage, has been effectively turned to account for the illustration of geographical terms, and for the study of form.⁵

In reference to clay-modelling, in this aspect of it, we received some evidence of special interest from Mr. W. Marsh, the Head Master of a school at Barrow-in-Furness, in which clay-modelling by the children is made use of to bring home to them the meaning of geographical terms. Mr. Marsh finds that after half-a-dozen lessons in which the terms occurring in elementary geography are thus illustrated, the children, when asked what is meant by an island, an isthmus, a peninsula, and so on, can readily answer; and this is but natural, for, as he expressed it, "they are describing what they have really made, and not what we have told them."⁶

In connection with this application of an exercise in Hand and Eye Training to the teaching of geography, we do not think it out of place here to refer to an incident mentioned by the same Head Master in his evidence. It strikingly illustrates the elasticity of the system under which the work of the elementary schools is now tested by the Inspectors of the English Education Department, as contrasted with the rigid uniformity impressed upon the work of a school by the system of payment by results fees on the basis of an individual examination of the pupils, which still prevails in Ireland. When Her Majesty's Inspector first saw the clay-modelling in Standards I and II. in Mr. Marsh's school, he was so satisfied that geography was excellently taught, that he would not further examine the subject.⁷

In view of the evidence we have received upon the subject, whether as regards the important objects which the exercises in Hand and Eye Training are designed to secure, or the satisfactory results that have been attained by the introduction of those exercises, we cannot hesitate to recommend that provision should at once be made for the introduction of courses of Hand and Eye Training in the Irish National Schools.

Such exercises obviously have a special utility in furnishing a natural link between the Kindergarten Occupations in the infants classes, and exercises such as those in Woodwork in the higher classes in the school. But we consider that their value is practically independent of this, and that they may be introduced with great advantage into schools where, from any cause, they may neither have been preceded by the Kindergarten Occupations on the one hand, nor be followed by more highly developed Manual Instruction, such as that in Woodwork, on the other.

Whilst we do not recommend that the Hand and Eye Training courses should, for the present, be made an obligatory part of the school programme, we consider that all possible encouragement should be given to the introduction of them, especially by the payment of a grant sufficient not only to remunerate the teacher, but also to cover the additional outlay entailed upon the school by the introduction of this new subject

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—
Bearing of
this training
on other
branches of
School-
work.

Recommendations.

¹ *Evid.*, vol. II., *Robinson*, 3487-502, 3586-94; *John Taylor*, 3735-8; *Satt*, 7666-74; *Nixon*, 8263, 8311-14; *Marsh*, 10458-63.

² *Evid.*, vol. II., *Beck*, 5104; *Beck*, 7958; *Peacock*, 8100.

³ *Evid.*, vol. II., *Beck*, 3296; *Magnus*, 4185.

⁴ *Evid.*, vol. II., *Beck*, 3097, 3196; *Nixon*, 8248-9.

⁵ *Evid.*, vol. II., *Marsh*, 10458-61.

⁶ *Evid.*, vol. II., 10459.

⁷ *Evid.*, vol. II., 10458.

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Eye Training.*
—
Teachers.

The evidence, however, shows that this cost is small, especially in the case of the earlier Standards or Classes.¹

As regards the amount of time to be allowed to the exercises of the Hand and Eye Training course, the evidence also shows that 1½ or 2 hours per week is sufficient.²

It is necessary to add that we are impressed with the danger likely to result from such a branch of school-work as this being taken up by incompetent teachers, especially by teachers who do not appreciate, or even comprehend, its educational aims. Experience in England has shown that teachers are sometimes led by the apparent simplicity of many of the exercises to think that the work is such as can be done by a teacher almost without any previous study or serious preparation of any kind. As a result, failing to comprehend the objects of the instruction, they content themselves with devising the shortest methods by which children can be drilled to perform the exercises with a certain mechanical accuracy, and thus they fail to secure the most useful result of this form of training.³ We think it important, therefore, to insist that unless a teacher thoroughly grasps the object of these exercises, and has mastered the art of giving them intelligently to the children, the introduction of even the most skilfully devised course of Hand and Eye Training into a school is likely to do more harm than good.

While, therefore, we recommend that wherever a teacher shows both a desire and a capacity to take up a course of Hand and Eye Training for the children, every possible encouragement should be given to the experiment, and the most liberal allowance should be made for the inevitable shortcomings of all first efforts in an entirely new field of work, we consider it, on the other hand, essential that the Board of National Education should guard against this branch of school-work being undertaken by teachers who, though not really competent to take charge of it, might be tempted to do so by the prospect of earning the additional grants.

Grants: the
Results
Fees
System.

As regards the principle on which these grants should be assessed, we consider it obvious that in a branch of school-work such as this, the method of payment by results fees, on the basis of an examination of the pupils individually, is quite unsuitable.

In this, as in other branches of Manual and Practical Instruction, the point to be ascertained as a test of efficient work should not be the mere ability of the pupils individually to reproduce at an examination set exercises in which they have previously been drilled. The aim should rather be to test the intelligence and skill which the teacher brings to bear upon the work, and the extent to which the real purpose of the exercises as parts of a complete scheme of primary education is kept in view throughout. In particular, the Inspector should specially note whether the teacher is careful in excluding everything suggestive of the mere mechanical employment of the hands in the execution of set tasks, a process from which little, if any, educational advantage is to be gained.

The application of these remarks to various other branches of Manual and Practical Instruction, as well as to that with which we are here dealing, is obvious, and we do not think it necessary to repeat them in each instance. We shall, however, again refer to the matter in its general bearing, in the Third Part of our Report.

Grants for
equipment.

It may be convenient here to make another remark which is of general application to the various branches of Manual and Practical Instruction.

The system on which grants are made to National Schools in Ireland is different from that followed in the case of the elementary schools of England and Scotland. In England and in Scotland, the grants are made to the managers of the schools, the managers being charged with the responsibility of maintaining the schools in a state of efficiency. In Ireland—except in the case of those Convent and Monastery Schools in which a Capitation payment takes the place of the payment of fixed salaries to the teachers according to their classification,—the grants made by the National Education Board are paid, not to the managers, but to the teachers.

The natural tendency of a system of payment such as that followed in Ireland is to check to some extent the introduction into the schools of any branch of instruction involving outlay for the providing of appliances of any kind. We do not suggest that

¹ *Evid.*, vol. II., *Series*, 3136-41, (see also Appendix A, XVII.), *Hudson*, 4793-4, *Hanco*, 7330-3, *Hawesridge*, 10152-4.

² *Evid.*, vol. II., *Series*, 3214; *Robinson*, 3658; *Magnus*, 4263-4; *Fitch*, 6518.

³ *Evid.*, vol. II., *Series*, 3115-6, *Hudson*, 4792.

the system should be changed. But we consider that if Hand and Eye Training, and other subjects of Manual and Practical Instruction are to be placed, as they should be, in a prominent position in the system of National Education in Ireland, their introduction into the schools should be facilitated by special grants to the managers sufficient to cover the cost of providing the requisite outfit.

We would point out that a precedent for such grants already exists. When a new National School is opened, or an existing school is taken into connection by the National Education Board, the Board makes a free grant of school requisites, such as school-books, maps, and the like¹. It would not be an undue extension of the principle embodied in this arrangement, to apply it to the case of the introduction into a school of a branch of instruction which had not previously had a place in the educational system of the Board.

The arrangement in detail of the programme for the courses in Hand and Eye Training for the Irish National Schools will naturally devolve upon the National Education Board. In this important work, ample guidance, not only as to the general principles to be adhered to, but also as to all important details, will be found in the evidence received by this Commission.²

It will, we consider, be necessary for the Commissioners of National Education, especially in the beginning, to secure the services of some competent organizers, having experience in the practical work of Hand and Eye Training, to assist in the drawing up of detailed courses, and to superintend the introduction of them into the Irish National Schools.

We would suggest that the official programme of the Board, whilst laying down in detail the lines of one or more well-considered courses of Hand and Eye Training, should make it clear that the courses thus set forth are intended only for the guidance of managers, and that any manager who may wish to introduce into his school a course of Hand and Eye Training upon any different line, will be afforded facilities for doing so.³ We regard this branch of school-work as one in which it is especially desirable to encourage individuality in the teaching. The sanction, however, of the National Education Board should, of course, be obtained before any programme other than one officially recognised could be made the basis of work in any school.

WOODWORK : SCOTCH.

The manual exercises of the Hand and Eye Training courses in the lower classes of the schools naturally lead up to similar exercises of a more advanced character in the higher classes.

But these exercises differ in value among themselves in difficulty, and in the nature of the training which they give. Some are very elementary: others admit of extensive developments, and are suitable for advanced classes. In particular it seems to be agreed that exercises in cardboard admit of, or rather demand, a high degree of accuracy, and some amount of physical strength such as cannot be expected from very young pupils. These exercises are particularly suitable, as a rule, for children of Classes III. and IV., but they may be made sufficiently difficult and sufficiently varied to make them appropriate for even the highest classes. For this reason they may form a fairly effective substitute for Woodwork, but only in cases where considerations such as that of cost make the introduction of Woodwork impossible.

But there seems to be no question that for older children, that is, roughly speaking, for those from ten to fourteen years of age, wood has many advantages over every other material. Exercises in Woodwork admit of greater variety of manipulation, and of more exact gradation—a consideration of great importance. They make more demand on the intelligence, especially when associated with the making and the interpretation of drawings, and they have an obvious practical application which makes them more interesting to the children who at this age become dissatisfied with what they consider puerile occupations.

In London, Liverpool, and Birmingham, the advanced manual exercises in some of the schools which we visited are in Woodwork, in others they are in Metal-work. But

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The programme.

Organisers.

Variety in courses.

More advanced exercises.

Cardboard.

Woodwork.

¹ "222 (a.) The Commissioners furnish gratuitously to each School a First Book of certain School Requisites, in proportion to the attendance of children." *Rules and Regulations of the Commissioners of National Education in Ireland* (June, 1890), page 39.

² See especially Evid., vol. II., evidence of *Reid, Hudson, Vaughan, Bots, Hunsbridge*.

³ Evid., vol. II., *Reid*, 3131; *Cullen*, 7046; *Harrit*, 7947; *Hunsbridge*, 10231.

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Woodwork;
Stairs.

the use of metal as a material for school exercises is comparatively rare, and as we do not consider that exercises in Metal-work can be regarded as at all generally applicable in Irish National Schools, we shall not further refer to the subject. If in any exceptional cases in Ireland such exercises are considered likely to be of practical advantage in a school, the evidence given before us by several witnesses in England will be found to contain much useful information in reference to them.¹

Woodwork, as a branch of instruction organised on sound educational lines, has as yet no place in the school programme of the Irish National Education Board.

"Handi-
craft" in
the National
Schools

Under the name Handicraft, a two years' course of manual exercises, mainly in woodwork, is provided for in the programme of the Board. This course, which was introduced in 1885, comprises instruction in a number of the ordinary operations of carpentry, with the addition of miscellaneous other matters such as the soldering of pieces of tin, the hacking out of broken panes of glass, and the making of paste and glue.² It does not appear to have been constructed with any very definite educational aim, and it seems to have been a failure from the beginning. In 1896, the Handicraft course was taught in only 15 National Schools in Ireland.

In the minds of teachers who have had no other conception of school Woodwork than that conveyed to them by the Handicraft Course, whether as set forth in the Board's programme, or as taught in some few schools, this course has created, not altogether unnaturally, a strong prejudice against the introduction of any course of Woodwork into the schools. All such work is contemptuously referred to as "wood chipping,"³ and the "unscientific use of tools."⁴ It is of the utmost importance that the teachers should be fully informed of the essential distinction between a course, such as the Handicraft Course of the existing programme, which is purely utilitarian in its aims, and a course of school Woodwork, constructed on sound educational lines, and made part of the work of the school in view solely of its general educational advantages. If this be not done, many of the teachers, failing to appreciate the distinction, will naturally regard as of little value any course of Woodwork introduced by the National Education Board in accordance with the recommendations of this Report. We fully concur in the view expressed by Herr Salomon to those members of our Commission who visited Sweden, that no one ought to be allowed to teach this or any other subject who does not believe in the value of the subject which he is to teach.⁵

Report of
National
Education
Board in
1887.

It is interesting here to note that, as far back as 1837, the importance of providing a course of instruction in manual work, comprising, doubtless, instruction in Woodwork, was recognised by the Commissioners of National Education in Ireland, and that the Commissioners, in their statement upon the subject, then took as their starting point a principle which is now accepted by all educational authorities as of fundamental importance in this matter. The Fourth Annual Report of the Commissioners, issued in 1837, contains the announcement that their Training College for teachers, then about to be established, was to include a department for scientific instruction, and that in this department were to be taught "in particular, those branches of science which have a practical application to husbandry and handicraft." The Report then continues as follows:—

"We also purpose having a school for industry in the immediate neighbourhood of Dublin, with workrooms . . . attached to it, and that those who attend it shall be practised at stated times in different descriptions of manual work . . .

"Our object is not to teach trades, but to facilitate a perfect learning of them, by explaining the principles upon which they depend, and habituating young persons to expertness in the use of their hands."

It was further stated in the same Report that the manual training thus to be provided was to be obligatory on all teachers in training in the Normal School or Training College, and that similar instruction was to be given to the pupils in the Model Schools then intended to be established—these being schools which were to differ from the ordinary National Schools of the country in being under official management, so that the course of instruction to be given in them, even in the optional parts of the school programme, would be under the direct control of the Commissioners of National Education themselves.

¹ *Evid.*, vol. II., *Bovis*, 3108; *Disgle*, 4536-7; *Buckmaster*, 5605-6; *Oulton*, 7042, 7091-3; *Scott*, 7617-8; *Pearson*, 8046-7.

² *Rules and Regulations of the Commissioners of National Education in Ireland* (June, 1886), pp. 71-2.

³ *Evid.*, vol. III., *Perence Clarke*, 13754; *Coffey*, 13043.

⁴ *Evid.*, vol. IV., *Ward*, 19157-9.

⁵ *Evid.*, vol. IV., *Salomon*, 14213, 14215.

The distinction, so clearly apprehended by the Commissioners of National Education in 1837, between that form of manual training which, as it is of general educational value, is in place in a primary school, and the teaching of trades—a branch of instruction which should have no place in the work of such a school,—is a distinction of fundamental importance. It receives perhaps its clearest illustration in the matter with which we are dealing in this section of our Report.

This distinction is well pointed out by Herr Salomon, the director of the Training School at Näsä, in Sweden, for teachers of school Woodwork, or Sloyd, as it is termed in that country.

"Sloyd," says Herr Salomon, "is a system of educational handwork. On the continent, the term Sloyd embraces many useful forms of handicraft. The term Sloyd, in England, is generally understood to mean a system of handwork in wood. Why then do we not call it carpentry? Because it differs from carpentry in several essential features. . . . Carpentry is a trade, and the principles which underlie it are entirely utilitarian; whereas Sloyd is solely a means of formative education."

As Herr Salomon goes on to explain, the purpose of this branch of school-work is quite different from that of instruction in the trade of carpentry. The object of Woodwork in the primary school is not to turn out carpenters, but to develop generally the faculties of the children. Nor is its usefulness in this respect confined to the development of their physical powers. It cultivates, no doubt, manual dexterity; but it also cultivates carefulness, self-reliance, accuracy, patience, perseverance, and other useful points of character. It trains too the faculty of attention, and develops the power of concentration. Indirectly, moreover, it has the advantage of inspiring a respect for the work of the artisan, and for those who are skilled in any branch of it.

This description of the aims and results of Sloyd, given almost in the words of Herr Salomon, has reference primarily to the Swedish system of school Woodwork. But it is equally applicable to the systems of Woodwork in use in the schools of other countries, in so far as those systems are constructed, as the Swedish system is, on truly educational lines. There is no reason therefore why the term Sloyd may not be applied to them.

This may be the most convenient place to state in outline the salient points of the Swedish system. That system is worked out through a series of objects, technically termed Models, which are to be made out of wood. These begin with some exceedingly simple objects, such as pointers, letter-openers, labels, and the like. In the typical Sloyd course for boys, at Näsä, there are fifty such Models, and thirty in the course for girls. They are so arranged that each represents some slight advance upon the one that preceded it in the course,—either some new tool, or some new use of a tool previously employed, being introduced in the making of it.

The utmost importance is attached to having each object, when made, the work of one individual pupil. Division of labour is rigorously excluded from the system; so much so, that whenever it is necessary for the teacher to show the pupil how any particular part of the work is to be done, he is to show this, not by doing a portion of the pupil's work for him, but by giving the demonstration upon another piece of wood. Self-reliance is one of the points of character to be developed by the system, and so the Sloyd Model, when completed, must be, from beginning to end, the individual work of the pupil who made it.

In the Swedish Sloyd system, mere approximations to accuracy receive no toleration. If, for instance, a piece of wood is cut in any appreciable degree too short for the particular Model that is to be worked out, it has to be put aside as unsuitable for the work then in hand. The same check upon inaccuracy is applied even in the case of an almost completed Model, if, after days of work, some want of attention to a minute detail has led to a mistake which makes it impossible to complete the work to the dimensions laid down in the drawing.

With the view of removing, as far as possible, all ground for misconception as to the nature and the objects of this branch of school-work—the subject being one that may very easily be misunderstood, especially in a country like Ireland, where, as yet, but very little is known about it either by teachers or by managers of schools,—we think it useful, also, to quote the following observations of Herr Salomon upon another point of considerable importance in the system.

"The objects," says Herr Salomon, "which the child makes are equally useful with those of the carpenter; but, unlike the work of the carpenter, the value of the child's work does not exist in *them*, but in *the child* that made them."

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Woodwork :
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Educational
woodwork.
Herr
Salomon.

How it
differs from
carpentry.

The Swedish
Sloyd
System.
The
"Models."

No division
of labour.

Accuracy
insisted on.

The aim of
Sloyd.

¹ *The Theory of Educational Sloyd*, by Otto Salomon, London, 1892, page 1.

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Woodwork.
Sloyd.

"Many people object to this kind of instruction. 'It takes,' they say, 'ten hours to make a spoon [of wood]; why not buy one for 2d. or 3d.?' For exactly the same reason that we do not tell children to buy copybooks filled with writing, instead of filling them. It is not the filled copybook that we require in education: neither is it the spoon in *Sloyd*. Both are means, having the same end in view—the development of the child. The destruction of the objects does not impair the faculties of the child, which were developed in making them, any more than the destruction of the copybook impairs the skillfulness of the child who filled it."¹

This, in outline, is the Swedish *Sloyd* system. We have thought it useful to deal with it at some length, because, in our opinion, it admirably illustrates the fundamental principles upon which any system of Woodwork should be constructed, which is to form a part of the work of a primary school.

Woodwork
in English
and Scotch
schools.

Both in England and in Scotland we found courses of Woodwork established as an important part of the work of many schools.

These courses follow in the main the principles laid down by Herr Salomon, though in some details they differ both from the Swedish system, and from one another. The differences regard chiefly the tools to be used, and the nature of the objects to be made. We do not consider that these differences are of sufficient importance to require any detailed consideration of them here. They are fully discussed in the evidence of various witnesses.²

Differences
in details.

As an illustration of these differences in details we may, however, mention that in the Swedish system, the work to be done by the pupils, from the very first lesson, is the production of an object which, simple as it may be, is complete in itself. On the other hand, in the system more generally favoured in England, the pupil is at first taught merely the use of tools, through a series of exercises in planing, sawing, the making of joints, and the like.

In so far as both systems are worked out in England, the present tendency would seem to be for each to approximate to the other. We consider that when the programme in this subject is being arranged by the National Education Board, but little difficulty will be found in arranging a course combining the good points of both.

London.

In both England and Scotland, the introduction of Woodwork into the schools is of somewhat recent date. In London it was first introduced, merely as an experiment, and on a very small scale, by the London School Board in 1886. The experiment was considered successful, but as Woodwork was not then recognised by the English Education Department as a subject to be taught in Elementary Schools, the School Board was surcharged the amount expended. The work thus abruptly checked was not, however, abandoned. The Board was successful in obtaining through the City and Guilds' Institute a grant of £1,000 from the Drapers' Company, which enabled the experiment to be continued, and on a much larger scale, in the following year. This grant was administered by a Joint Committee, composed partly of members of the City and Guilds' Institute and partly of members of the London School Board, with subsequently some members of the Drapers' Company. So satisfactory were the results of the further experiment that the grant from the Drapers' Company was continued from year to year. A grant of £250 in aid of the work was also made from year to year by the London City and Guilds' Institute.

By means of the funds thus supplied, the Joint Committee was enabled to equip and maintain six Centres, in each of which instruction in Woodwork was given to the pupils of neighbouring Board and non-Board schools. In 1889, the Committee extended its sphere of work by establishing four Centres of instruction in laundry-work, which was not then recognised by the Education Department as a subject upon which the funds of a School Board could be expended.

In 1890, Woodwork (as well as laundry-work, which is dealt with in another section of our Report) was recognised by the Education Department as a school subject.

¹ *The Theory of Educational Sloyd*, by Otto Salomon, London, 1893, page 2.

² *Evid.*, vol. II., S. *Burton*, 6549-57, 4943-72; *Rooper*, 5074-101, 5357-40, 5288-93; *Backmaster*, 5397-604; *John Cooke*, 5644-51, 5661-80; *Boss*, 7726-41; *Pearson*, 7991-3, 8018-32, 8062-4; *Nelson*, 8329-45, 8570-82, 8626-33; *Hawesridge*, 10189-99, 10291-12, 10233-42; *Morris*, 10429-45. *Evid.*, vol. III., *Arnold Grant*, 10494-5, 10701-2, 10726-69; *Reisch*, 11183-7; *Salomon*, 14213-38. See also Appendix A, LV. *Evid.*, vol. IV., *James Wallace*, 21501, 21504; *Malsola*, 21567-72; *Marras*, 21726-36; *Normall*, 23438-41; *Davies*, 23432-4.

The School Board was thus enabled to expend its own funds upon this branch of school-work. And in the same year money was provided by Parliament for grants for it from the Imperial Exchequer.

The Joint Committee still continues its useful work. It receives each year a grant of £1,000 from the Drapers' Institute and a grant of £250 from the London City and Guilds' Institute. Its chief aim for some years past has been to experiment in subjects of instruction not yet approved by the Education Department, and to provide instruction in Woodwork and other practical subjects, such as Metal-work for boys, and laundry-work and housewifery for girls, for the pupils of the non-Board schools which cannot afford the initial expense of starting such classes. It also maintains classes for the training of teachers in these various subjects.

The "Centre" system,—that is, the system by means of which a room suitably equipped for instruction in Woodwork or in Metal-work is made available for the boys of several neighbouring schools,—is adopted also by the London School Board. There are now throughout London 130 such Centres, each affording room for either 20 or 40 boys. Room is thus provided for over 3,980 boys in all. But as each Centre is occupied by 10 relays of boys in the course of a week, the boys of each relay receiving instruction for two hours, the 130 Centres provide accommodation for the instruction of over 39,800 boys.

Under the rules of the London School Board, Woodwork or Metal-work, in so far as accommodation has as yet been provided for it, is an obligatory subject for boys above Standard IV. The Board's Report for 1896-7 shows that in that year the number of boys in the schools of the Board, receiving instruction either in Woodwork or in Metal-work, was 35,000.

In Birmingham, the subject is, to the same extent, compulsory. The number of centres now provided is eight. Of these five are for Woodwork, and three for Metal-work. The number of boys in the Board's Schools attending the classes in Woodwork is 2,500, and the number attending those in Metal-work is 1,500, making a total of 4,000. Additional accommodation is now to be provided for 640 more boys in Woodwork, and for 960 in Metal-work, making, in all, 1,600, to meet the increasing demand.

In Liverpool, under similar arrangements, the number of boys attending the various centres is 4,570.

In Barrow-in-Furness, where the arrangements again are similar, the number is 1,210.

In Edinburgh, Woodwork was first introduced six years ago, and then in only one school, as an experiment. It has now been introduced into 16 of the 31 schools under the Edinburgh School Board, and there is a general desire for the extension of it to all the schools. This is being done as expeditiously as possible. At present three additional schools are being provided with the requisite accommodation and outfit. It is not intended to adopt the Centre system. There is not, as yet, any rule of the Edinburgh School Board making Woodwork compulsory, but it is practically universal for boys of the Standards above IV. in all the schools where it has been introduced. The number of boys on the rolls of the Woodwork classes is 1,757.

In Glasgow, as in the cities and towns which we visited in England, the instruction is given in Centres. Already Centres have been provided in which this instruction is given to the boys of 34 of the Glasgow Board Schools, out of a total of 69, and in consequence of the high opinion which has been formed of its educational value, it is being extended from year to year. As in Edinburgh, it is not compulsory. In Glasgow, up to the present, it is taken up mainly by boys of the Standards above the Fifth. The number of boys now attending the classes in the various centres is 1,787.¹

Both in England and in Scotland the Parliamentary Grant for Woodwork (and the same is true of Metal-work) in Elementary Schools was administered, up to March, 1898, not by the Education Department, but by the Science and Art Department, which has also had the administration in England and Scotland of the Parliamentary Grant for Drawing in the Elementary Schools. In both countries the Grant is henceforth to be administered by the respective Education Departments; but, so far as we have ascertained, no change has been made in the regulations under which grants for these subjects are made to the schools. These regulations are as follows:—

Part II.
Section II.
EDUCATIONAL
HANDWORK.
Woodwork.
Stead.

The
"Centre"
system.

Birmingham.

Liverpool.

Barrow-in-Furness.

Edinburgh.

Glasgow.

Parliament
ary Grant.

¹ See pages 26, 27.

² See Appendix A., LIX.

Part II.
Section II.
EDUCATIONAL
HANDWORK.
Woodwork :
Sloyd.

The instruction must be in connection with Drawing, that is, the work of the pupils is to be done from drawings to scale previously made by them. The instruction, also, must be carried on continuously throughout the school year for two hours weekly; but the two hours may include one half hour for the special drawing in connection with the work. The work is to be done with the tools in ordinary use in handicrafts in wood or iron, and in a properly fitted workshop, wholly devoted to the purpose. The time given to this instruction must be in addition to the 20 hours per week prescribed as a minimum for the instruction in the compulsory subjects of the Codes of the Education Departments of England and Scotland.

The grants are made on the aggregate number of attendances made throughout the year by all the pupils who have made at least 15 attendances each. The payment is at the rate of 2d. per pupil for each attendance of two hours, with an addition of 20 per cent if the instruction of the class be adjudged "excellent."

Since the establishment of the system of Parliamentary grants for Woodwork, the number of schools in England and Scotland receiving grants for this subject has increased rapidly from year to year. This is shown by the following table:—

Program.

Terminated 31st August	Number of Schools.	Number of Pupils.	Amount of Grant.
			£
1891	63	2,368	600
1892	149	8,906	2,352
1893	352	17,831	4,867
1894	574	36,041	8,029
1895	908	67,602	16,284
1896	1,067	85,130	19,506

In 1897, there was a further increase. In that year the number of boys receiving this instruction was 106,345, and the amount of grants earned was £25,579, giving an average of nearly 5s. per pupil. Supposing one lesson to be given each week for forty weeks of the year, the maximum grant payable in respect of any pupil would be 6s. 8d., or (with the addition of 20 per cent), 8s., in classes the instruction in which is reported "excellent."

These grants are paid only in respect of pupils in the Fifth or some higher Standard. They may be earned in all public Elementary Schools in which Drawing is taught, in England, Scotland, and Ireland, except schools under the Irish Board of National Education. Only two schools in Ireland receive the Grants of the Science and Art Department for Woodwork instruction: both of these are under the care of the Christian Brothers. They are, the school of St. Vincent's Orphanage at Glenside, near Dublin, and the Christian Brothers' Day School at Lismore. In 1896, the former school received a grant of £16 6s. 7d., and the latter, a grant of £6 15s. 10d., making a total, for Ireland, of £23 2s. 5d.

Ireland.

The fee for
"Handi-
craft."

In the Irish National Schools, the only grant at all corresponding to the grants of the Science and Art Department for Woodwork is a results fee of 5s. paid by the National Education Board in respect of pupils of the Fifth and Sixth Classes who pass the examination in the prescribed course in Handicraft.

The Report of the National Education Board for 1896 shows that, in that year, the number of pupils presented for examination in Handicraft was 370, and that, of this number, 10 per cent failed to pass. Even if all had passed, the

¹ Appendix to the Forty-fourth Report of the Science and Art Department, p. 275 (the figures for the four Schools in Ireland, which received grants for Woodwork, being deducted).

² *Evid.*, vol. iii, *Handicraft*, 10903

maximum grant payable would have been at the rate of 5s. per pupil. It is to be borne in mind that the grants of the Science and Art Department are paid in respect of the aggregate number of attendances, whilst the grant of the National Education Board, as it is a results fee, is payable only in respect of those pupils who pass the examination.

In Ireland, there are no funds at the disposal of bodies, such as School Boards of many cities and towns in England and Scotland, nor resources of opulent societies, such as the London Guilds, available as aids either to the establishment or to the maintenance of this important branch of school-work. If, therefore, the pupils of the National Schools of Ireland are not to be excluded from the undoubted educational advantages which experience has shown to have resulted from the introduction of woodwork instruction in Elementary Schools in England and in Scotland, a special grant for the purpose of this instruction must be added to those now administered by the National Education Board.

The subject is one, the teaching of which involves not only a considerable initial outlay, but also a constant outlay from year to year. Before woodwork instruction can be introduced into a school, a room has to be built, or otherwise provided, for it; the room has to be fitted up with suitable benches; and a sufficient equipment both of tools and of material has to be supplied. The supply of material is a source of constant outlay. The tools, too, have to be kept in order, and they have also to be renewed from time to time.

The evidence we have received from various witnesses shows that the initial cost of providing a Centre and equipping it, when a new building has to be erected for the purpose, is considerable. In Birmingham, such a Centre, fully equipped, was estimated to have cost about £460. Of this, £400 was estimated as the cost of the building, and £60, of the benches. The building is a detached one, and is of a permanent character, built of brick: it serves for the instruction of 38 pupils at a time, and of 380 in the course of a week. As was pointed out, however, by Mr. Bevis, the Director of Manual Training to the Birmingham School Board, a very suitable building could be provided at a cheaper rate. Still he considered that to provide a room which would accommodate 40 pupils at a time, and therefore 400 in the course of a week, £230 at least should be expended upon building alone.¹ His estimate of the annual cost of the work shows that this cost alone exceeds the amount of the grant received from the Science and Art Department.²

Our remarks as to cost have reference to the arrangements for woodwork instruction under the regulations of the Science and Art Department. Those arrangements are comparatively costly, the conditions insisted upon being somewhat exacting. One result is that, in England and Scotland, Woodwork is practically confined to the schools of more or less important centres of population. In Sweden the case is different. As to this, we may quote from the special Memorandum drawn up for the information of our Commission by those members of it who visited that country. They inform us that, "on the whole, the lesson to be learned from Sweden in this respect is—with what modest and apparently incomplete provision of appliances the work can be carried on"; and, after giving several examples of the "makeshift arrangements" which are only now being generally replaced by separate Sloyd rooms, with a satisfactory equipment of benches, tools, and cupboards, they add that, "generally it may be said that in Sweden the question of material equipment is considered to be of altogether minor importance as compared with the finding of a teacher who is imbued with enthusiasm for the work, and who can conduct it with understanding and skill."³

The evidence we have received as to the beneficial results of the Woodwork instruction now given in the schools of England and Scotland is precisely similar in character to that to which we have already referred in dealing with the Hand and Eye Training courses in the lower classes of the schools. We there quoted the emphatic testimony of Sir Joshua Fitch that "the carrying forward of some form of manual instruction right through the whole scheme of education up to the secondary school is a step in the right direction, and has done distinct good."⁴ These words apply to the whole range of manual exercises, whether in their simpler forms, in the Hand and Eye Training courses, or in their more advanced forms such as Woodwork. But Sir Joshua Fitch's answer was given with special reference to these exercises in their more advanced form

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EDUCATIONAL
HANDWORK.
Woodwork: Sloyd.

Need of special grant.

Cost of equipment.

Beneficial results.

¹ Evid., vol. II., 3145-6. See also Evid., vol. II., Oulton, 6909-24; Pearson, 7997-8004.

² Evid., vol. II., Bevis, 3288-91.

³ Appendix to Third Volume of Evidence, p. 149.

⁴ Evid., vol. II., 6317.

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Section II.
EDUCATIONAL
STANDARDS.
Handwork.
Woodwork.
Sloyd.

The evidence of Sir Philip Magnus is equally noteworthy. He holds it to be "of the utmost importance that lessons in Woodwork should be a part of the ordinary curriculum of the school." In common with all the other witnesses who touched upon this aspect of the case, he points out that the object of these lessons should not be the teaching of a trade, but should be "the same as that of all the other instruction, the formation of character." "Of course," he says, "between the manipulation of wood by means of tools, and the formation of character, there are naturally a great many steps. But instruction in woodwork may be made the means of training the hand and eye to accurate observation and skill in execution, to truthfulness in work, and to the acquisition of many of those habits which are of the utmost use to a child in after life . . . no matter what trade or occupation he may go to, whether he is likely to be a bricklayer, a watchmaker, a plumber, or engaged in any other trade . . . Or even if he went to an agricultural occupation, or into clerical work, the habits formed will be of the utmost use."

It is unnecessary to multiply quotations in support of a view as to which we found absolutely no difference of opinion.

From witness after witness in England and in Scotland we learned, as the result of the experience gained since the establishment of the classes of Woodwork and similar instruction, that the instruction given in these classes is productive of the various advantages already specified in connection with the Hand and Eye training exercises in the lower standards. It trains and quickens the intelligence of the pupils. It teaches them, in many practical ways, the useful lesson of the importance of exactness even in matters of apparently small detail. It gives a useful variety to the work of the school. So far from injuriously affecting in any way the book-work of the school, it tends, on the contrary, to the greater progress of the pupils in that portion of their work. It is popular with the pupils, with their parents, and with the teachers. It has come to be popular even with teachers who at the outset were opposed to it, either from a misconception of its nature, viewing it as something connected with trades and therefore out of place in an elementary school, or from an apprehension, not unnatural in the absence of all experience as to its working, that it would interfere with the book-work of the school.¹

We learned, moreover, that in addition to these numerous advantages, which are in some degree common to all manual exercises, whether of the simpler or of the more advanced form, Woodwork and similar instruction in the higher Standards has the further special advantage of giving an inducement to pupils, especially to those who have passed the standard of exemption from compulsory school attendance at an early age, to remain longer at school.²

Recommendations.

We recommend that a course of Woodwork, based on the lines of the Swedish system, with such modifications as the experience of other countries, especially of England and of Scotland, has shown to be useful, should at once be introduced into the programme of the National Education Board. It will obviously be necessary for the Board, in this case, as in the case of the Hand and Eye Training courses, to secure the services of competent organisers having practical experience in the work.

We do not consider that Woodwork should be made a compulsory subject. As to this, we direct attention to the evidence given by Herr Salomon. It is his opinion that one reason of the great and growing success of the Sloyd movement in Sweden is that in that country the subject has from the beginning been treated as an optional one. He gives some interesting figures. Sloyd was first introduced into the Swedish school programme in 1877. In the next year, the number of schools in which it was taught was 103. Nine years afterwards, in 1887, the number was 991. Seven years later, in 1894, it had grown to 1,887, or very nearly one-half of the total number of schools in Sweden.

¹ Evid., vol. II., 4168-70.

² Evid., vol. II., Magnus, 5166-72; Stanley, 4403, 4471; Diggle, 4577-8, 4628-40, 4793; S. Barton, 4832-43; Reeper, 5129-30, 5136-44, 5321-33; Du Part, 5408, 5414-15, 5418-19; Buchmaster, 5553; John Cooke, 5619-27, 5824; Pitts, 6315-23; Oulton, 6903, 6906, 6980, 6949-55; House, 7196-200, 7287; Ratt, 7596-601, 7666-71, 7682-6; Pearson, 8078-80, 8098-102; Nelson, 8399; Gladstone, 9225-4; Hawesridge, 10284-95; Morris, 10446-8. Evid., vol. IV., *Levens Vellact*, 21537-8; *Kolaba*, 21567-8, 21586; *Macrae*, 21739-41, 21745-6, 21793-65, 21798-9, 21825-30, 21843-4, 21906; *Gray*, 21948-54; *Graham*, 21996-7; S. M'C. Murray, 22169-211; *Scougall*, 22294, 22577-83; *Cuthbertson*, 22994, 22996-7, 23103-14; G. W. Alexander, 23222; *Norvald*, 23442; *Duncan*, 23456; *Kerr*, 23515-23, 23533-7; *Low*, 23663-6, 23685-7, 23701, 23744-6; *Macdonald*, 23778; *E. Calder*, 23823-304, 23925-8; *Tucker*, 23927-72.

³ Evid., vol. II., Stanley, 4464-8; Diggle, 4578-82; Oulton, 6932-4, 7000-5; House, 7196-8, 7238, 7303-3; Evid., vol. IV., *Macrae*, 21766-70; S. M'C. Murray, 22211.

In 1895, a different method of distributing the grant for Sloyd teaching was adopted, the new unit of distribution being, not a school, but a "division," each division being a class of from 10 to 15 pupils. In that year, grants were paid for 2,483 such classes. By way of contrast, Herr Salomon points to the cases of France and Norway, where the mistake was made of introducing Woodwork as a compulsory subject. "The result," he says, "has been unsuccessful. If the subject be introduced on a small scale, it will grow; our experience in Sweden has shown that if we begin with small arrangements, they will grow more and more."¹

So far from suggesting that the subject should be made compulsory in Ireland, we are strongly of opinion, for reasons similar to those stated by us in reference to the Hand and Eye Training courses, that care should be taken by the National Education Board to hinder its being taken up by any but really competent teachers.

Some of the evidence given to our Commission goes to show that in reference to this branch of school-work much has yet to be done for the education of the teachers themselves. We do not refer merely to the disadvantage at which the Irish teachers are necessarily placed from their never having received any training as teachers of this subject, and from their never having even seen anything of the actual working of it in the schools, which might in some measure have tended to qualify the able members of their body to give instruction in it. We refer rather to the lack of information shown, both as to the grounds on which the claim of such instruction to a place in a course of primary education is based, and as to the beneficial results which have followed from the introduction of it into the schools, wherever it has been introduced.

We also consider that the provision of a room giving sufficient accommodation for Woodwork instruction, and suitably equipped for the purpose, should be insisted upon. But we assume that, at least for some years in the beginning, the requirements of the National Education Board in this matter will not go beyond what is really essential, and we consider that in reference to it, the example of Sweden, to which we have already referred, rather than that of England or of Scotland, should be kept in view.

We have taken a good deal of evidence as to whether woodwork instruction in the schools ought to be given by teachers of the ordinary school subjects, specially trained for the purpose, or by artisan teachers.² The prevailing drift of the evidence is strongly in favour of the employment of ordinary school teachers. We fully concur in this view. We would refer specially to the evidence given on this point by Mr. D. Holland,³ a teacher of considerable experience in a National school at Swords, near Dublin. Mr. Holland has himself endeavoured to do what can be done on the lines of the present Handicraft course of the National Education Board.

A comprehensive statement of the reasons in favour of the employment of ordinary school teachers rather than artisans for the woodwork instruction will be found in Herr Salomon's treatise on the Theory of Educational Sloyd. These reasons presuppose that the artisan has not had the advantage of being trained as a teacher. Herr Salomon's fundamental reason is that woodwork exercises have a place in the elementary school just in so far as they serve purposes of general educational utility. In these exercises, neither the use of tools, nor the making of objects, is anything more than a means to an end. Dexterity of hand, though it is one of the results that may be attained, holds but a subordinate place amongst them. Sloyd is a means of education, and the teacher of it should be, first of all, not a mere workman, but an educator: the technical skill of the artisan may be greater than that of the teacher of ordinary subjects could be; but, from a Sloyd point of view, the amount of technical skill is of comparatively little importance. Moreover, in the case of an artisan instructor there is the positive drawback that it is, in most cases, much easier for him to do a thing himself, than to teach how it should be done, and so there is a danger of his giving far more help to the pupils than he should give, and a danger also of his giving it at

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EDUCATIONAL
HANDWORK.
Woodwork:
Sloyd.

Teachers.

Suitable
equipment.

Artisans as
teachers.

¹ Evid., vol. II., Salomon, 14231-4, 14247. See also Appendix to Third Volume of Evidence, p. 146.

² Evid., vol. II., Bain, 3127-8; Mapane, 4188-90, 4211-4, 4242-9, 4257; Stanley, 4408, 4432-4, 8. Barber, 4871, 4942-4; Du Port, 5441-3; John Cook, 5791-800; Finch, 5897-8; Hudson, 6763-76; Collier, 6902, 6925, 7012-3; Howe, 7232; Best, 7724-6, 7742-3; Hewitt, 7883-4; Pearson, 8071; Nixon, 8319; Nelson, 8473-6, 8593-5. Evid., vol. III., Arnold Green, 10694, 10703-6, 10770-80; Knobel, 11181-4, 11185-93, 11286-93; Froese, 11620-43. Evid., vol. IV., Burke, 15084-6; T. J. Alexander, 15186; Hunt Res. Ir. O'Dwyer, 16561-3; Moore, 21713-4, 21787-81, 21928-33; Graham, 22001-7, 22040-3, 22095-115; Strong, 22538-41; Outshere, 23035-7; Geo. W. Alexander, 23135-8; Denison, 23474-30; Lou, 23672-9; Elliot, 23705-8, 23762-4.

³ Evid., vol. III., Holland, 13139-36, 13543-4.

Part II.
Section II.
NATIONAL
SCHOOLS.
Handwork.
Sloyd.

points where the pupils should rather be left to try to make out things for themselves, and to learn something for themselves, even from their own imperfect attempts and failures.

It is noted by Herr Salomon that, even as regards the Models themselves, the experience of Sweden goes to show that these are better turned out in schools where the instructor is a teacher of the ordinary subjects, than in those in which the instructor is an artisan. "All Swedish inspectors," he says, "who have reported on Sloyd are unanimously that the work produced by means of ordinary teachers is far superior to that produced by means of artisans." In view, however, of the real purpose of Sloyd teaching, this is but a very secondary consideration.

Inasmuch as it is one of the indirect objects of Sloyd exercises in the schools, to give the pupils a respect for manual work and for those engaged in it, an important consideration is that the pupils are far more likely to look with respect upon what one of their ordinary teachers is engaged in, than upon anything which they see handed over by the teacher to be dealt with by an artisan brought for the purpose from outside.

In Sweden, considerable experience has been obtained of the working of both plans: for ten years, artisans were employed to a very large extent; now, in nearly every case, the work is in the hands of ordinary teachers.

Section III.
DRAWING.

Drawing in
the National
Schools.

III.—DRAWING.

Under the rules of the Commissioners of National Education, Drawing is taught in National Schools in Class III. and upwards, and only as an optional subject; a Results Fee is paid for it, (2s. 6d. in Class III., rising to 3s. in Class VI.), if it be taught by a specially certificated teacher. During the year 1896 it was taught in 1,515 schools; and the number of pupils examined was 74,317, of whom 58,693 passed. The total number of children on whom Results Fees were earned in any subject in the Classes in which drawing may be taught was 274,273, showing that only 27·09 per cent. of the pupils are instructed in Drawing. The number of teachers holding certificates to teach Drawing is 3,327 (1,685 masters and 1,542 mistresses). As Drawing was taught only in 1,515 schools, it would appear that many of the teachers possessing such certificates do not give instruction in the subject. In 1896 there were 12,000 teachers employed in the National Schools, so that at present 26·8 per cent. of the teachers are certificated to teach Drawing.

Definition
of terms.

We find considerable confusion existing as to terms used to denote different branches of Drawing taught in elementary schools. We, therefore, define the meaning in which we propose to use certain terms.

Freehand Drawing.—This term we apply to the reproduction on the same or different scales without mechanical aid, of examples which have been already drawn on the flat.

Mechanical Drawing.—This term we apply to drawings produced by the aid of instruments, whether copies of drawings, plans to scale, conventional representation of solid forms, or the construction of geometrical figures—a form of Drawing often included under the term "Geometrical Drawing."

Model Drawing.—This term we apply to the pictorial representation of solid forms without mechanical aid.

Brushwork.—A modification of freehand Drawing in which the brush and colour replace the pencil.

Colourwork.—A system of Drawing in which masses are represented by tints of colour.

Drawing in Light and Shade.—The representation in monochrome of casts or objects with lights and shadows properly depicted.

Method of
teaching, in
National
Schools.

In practice, we find that in Ireland only Freehand Drawing is taught in the National Schools; frequently no instruction is given, and the children are provided with a copy-book and left to themselves to copy a drawing already depicted on the left hand page on to the right hand one, whilst their teacher is engaged with some other classes.¹ The only other form of Drawing at all generally practised is the copying in the higher classes of shaded pictures.

¹ *The Theory of Educational Sloyd*, by Otto Salomon, London, 1893, page 71.

² *Evid.*, vol. i., *Parer*, 568. *Evid.*, vol. iii., *Bresan*, 11303-5; *Clement*, 13931, 14010-13. *Evid.*, vol. iv., *Dr. Thomas*, 14261-3; *Alexander*, 15238, *W. B. Joyce*, 16164.

That the teaching of Drawing under these conditions is not satisfactory, seems to have been universally felt in Ireland, and of the witnesses we have examined, the majority strongly desire that the course of instruction in Drawing should be of a more practical nature;¹ that Drawing should be continuously taught from the infants' class onwards, and that as soon as possible a simple course of Drawing should be introduced into all National Schools.²

Part II.
Section III.
DRAWING.
—
Evidence.

In England, Drawing is a compulsory subject in all boys schools: grants for it are also made in the case of girls if cookery is taught in the upper standards of the schools. In Scotland, Drawing is not a compulsory subject.

Drawing
in England
and
Scotland.

In 1896, Drawing was taught to 2,329,412 children in 20,020 elementary schools in England, Wales, and Scotland.

In England and Scotland, since March, 1898, the Parliamentary Grant for Drawing which had previously been administered by the Science and Art Department is administered by the Education Departments of the two countries.

To earn grants it was necessary that the instruction should be given by a teacher holding a certificate. This certificate could be acquired by passing the examinations held by the Department of Science and Art in certain Art subjects, but the teachers' ability to teach was not tested, the examinations being those open to all Art students.

In the Code of the Education Department for 1890, laid on the table of the House of Commons, and published about March of that year, it was stated in clause 85b, that the satisfactory teaching in Drawing of all boys in schools for older scholars in England and Wales would be made a condition of the annual grants of the Education Department which should fall due after the 31st August, 1891. The possession of a Drawing certificate on the part of the teacher was at the same time dispensed with.

The number of schools in which Drawing was taught during the year ending August, 31, 1890, was 4,324. During the year 1890-91 it increased to 6,212, and in 1891-92, when the subject was made compulsory, the number was 18,288.

In 1894, the Department of Science and Art decided to issue certificates of capability to teach Drawing for grants in elementary schools to all older teachers, who having taught Drawing in their schools, had obtained two good reports since 1891.

Drawing is taught in elementary schools, receiving grants from the Department of Science and Art, in accordance with a definite syllabus, which lays down the nature of the instruction for each standard within clearly defined lines. Within the last few years an alternative syllabus has been issued, and we find a growing tendency to give to local educational authorities more latitude in framing courses suited to their particular circumstances. The evidence we have received is mainly concerned with the amount of instruction in Drawing that can with advantage be given by the average teacher, and the direction towards which it should tend. It has been pointed out that Drawing can be associated with many subjects of instruction, and that the Mechanical Drawing may generally be practically applied.

We conclude, from the evidence before us, and from the fact that Drawing has been made a compulsory subject of elementary education in most European countries, that practice in careful observation and accurate drawing is a very valuable part of mental discipline.³

Various
branches of
Drawing.

It is necessary therefore to consider in more detail the results, both utilitarian and educational, of instruction in the various branches of Elementary Drawing; and to ascertain to what extent such instruction can be introduced into all National Schools in the immediate future bearing in mind the facts, that many of the teachers have not been trained to give instruction in Drawing, and that all teachers cannot be expected to develop artistic ability.

Freehand Drawing naturally suggests itself as the basis of all instruction in Drawing that is to be the means of training in accurate observation, and ready representation by a graphic method of what the eye perceives. In drawings from flat copies, the relative

Freehand
Drawing.

¹ Evid., vol. i., *Foy*, 2975-7. Evid., vol. ii., *Maynes*, 4329. Evid., vol. iv., *T. J. Alexander*, 18170; *W. F. Joyce*, 14276-8; *Courtesy Clarke*, 17427-31.

² Evid., vol. i., *Moran*, 1645-6. Evid., vol. ii., *Maynes*, 4331-2; *Du Port*, 5432. Evid., vol. iii., *Brennan*, 11328; *Troill*, 11417; *Holland*, 12128; *Coffey*, 12986; *Reeder*, 12461, 12465; *Steele*, 12801; *Clemens*, 14012. Evid., vol. iv., *Br. Thomas*, 14301; *Burke*, 15030; *Gamble*, 15004; *Bateman*, 15940; *Courtesy Clarke*, 17428; *MacLennan*, 18438.

³ Evid., vol. ii., *Fitch*, 5618. Evid., vol. iv., *Grant Ogilvie*, 22815, 22822-6, 22843-4.

Part II.
Section III.
DRAWING.

lengths of lines on the copy and completed drawing are the same; the pupil is therefore not confronted by the difficulties inherent in drawing from solid objects, where the representations of straight lines when correctly drawn on paper are not proportional to the actual lengths of the lines on the object, but vary also according to their inclination to the line of sight of the observer, and where the character and shape of curves vary according to the point of sight.

For study of form, for training in the use and manipulation of a pencil, and in accurate observation, and for cultivation of the power of judging relative distances between points, Freehand Drawing is the simplest branch of Elementary Drawing that can be employed, and the one that can be most easily supervised by an unskilled teacher.

Mechanical
Drawing.

Mechanical Drawing is eminently utilitarian, and does not demand from teacher or pupil any skill in the unaided use of a pencil, that cannot be easily acquired. It may, however, be made the means of much useful training and mental discipline. The copying of rectilinear figures by means of the ruler and pencil, but without resorting to measurement, except as a check when the work is completed, is a useful exercise for young children in accurate observation and judgment of relative distances.

Practice in the construction of geometrical figures, is both a mental exercise requiring thought and reasoning, and a training that lays up a store of knowledge that will be frequently useful in after life, and if confined to the more elementary figures is quite within the scope of primary education.

Some knowledge of the conventional methods of representing solids in plan, elevation, and section, or in some other form of projection, forms the fundamental basis of technical training.

The practical application of Mechanical Drawing¹ should be taught to children whenever possible in connection with their other lessons. This may be well exemplified by the use made of drawing in the Hand and Eye exercises and Woodwork; in Card-board work, the development of a solid (i.e., the shape it would assume if its faces could be laid out on one plane) is drawn, and from the drawing the solid is constructed; again in Woodwork, the plan and elevation, and if necessary a section of an object are drawn, and from these data the object itself is afterwards constructed. Such simple exercises possess many valuable features: the indication that Drawing may be of practical utility is one; the mental exercise involved in picturing a solid form from a conventional drawing, or vice versa, is another highly educational one, and furthermore they lay a basis for further training in industrial occupations.

A power to impart instruction in this branch, within the limits we have indicated, should not be beyond attainment by every teacher.

Model
Drawing.

Model Drawing is perhaps the form of drawing which most immediately appeals to teachers and children, but we have received evidence that it is an exceedingly difficult form of Drawing in which to give efficient instruction, and the mere substitution of formulas, derived from the rules of perspective, for the training of the students' eyes as to how to see, thwarts many of the advantages of such a form of Drawing.² It is however undoubtedly desirable that all children should be taught to make sketches of simple objects, which may at least serve to jot measurements on, and form the basis from which to construct an accurate conventional drawing. The very simplest forms of Model Drawing should therefore be taught in all schools, but great proficiency in the subject can be expected only from schools in charge of teachers trained in this branch of Drawing.

Brushwork,
&c.

Brushwork, Colourwork, and Drawing in Light and Shade, are branches of Drawing which may be looked on as extensions of the forms we have already dealt with; they are more especially useful in developing the aesthetic sense and artistic ability of children, they help to brighten and beautify the lives of the scholars, but are liable to misuse in the hands of unskilled teachers, and cannot therefore be generally introduced.

Use of the
Black-
board.

For a teacher a certain facility in drawing on the blackboard is almost a necessity if the instruction in Drawing is to be efficient: indeed for effective instruction in many subjects, of every day work, such an acquirement is necessary, especially when

¹ Evid., vol. II, B. 3695-7, 3699, 3163-4, 3160. Evid., vol. IV, Grant Dyke, 22815 22822-6, 22843-4.

² Evid., vol. II, E. Taylor, 3344.

dealing with young children, when a sketch may supplement words and convey an idea much more quickly and correctly than a merely verbal description. In some schools we have found a line of blackboards fixed around the walls at a convenient height for children to draw on them; those pupils who show proficiency are encouraged to use them, drawing on a larger scale and with more freedom than can be attained under ordinary circumstances. Such efforts are useful principally for the distinction they confer on the young draughtsmen and the spirit of emulation they excite.

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DRAWING.

We consider that instruction in drawing of a nature to afford training in observation, accuracy, and facility in the graphic representation of objects may be given by every teacher who devotes a little time to the study of the subject, and follows a suitable course in freehand and mechanical drawing¹. The teacher need not possess great ability as a draughtsman, but should be able to sketch intelligently on the blackboard.

The teaching of
Drawing.

In Drawing, as in other forms of practical instruction, the object of the exercises is not so much the completion of a drawing, as the mental and manual training involved in its execution. It is of the utmost importance therefore that the methods of instruction should receive particular attention.

In Freehand Drawing, large charts should be used in addition to the smaller copies now generally to be found in schools, or the teacher may draw an example on the blackboard, adapted for any particular purpose. The children should be carefully taught to estimate the relative distances of points, and their success in so doing may be tested by measurements. The proportion between the various components of the example should be carefully pointed out; and when curves and ornaments are employed as examples they should be analysed on the blackboard, and the method on which the ornament is built up, should be explained. The teaching of Mechanical Drawing involves continual explanation of the use of instruments, of the conventions adopted, and of the reasons for the various steps taken. It follows then that, during the lessons in Drawing, frequent instruction must be given by the teacher, and that the lesson should never degenerate into mere unaided copying of examples.

We recommend that a course of Elementary Drawing should be introduced into all National Schools with the least possible delay; that the course of Drawing throughout should be in continuation of the Kindergarten Drawing; that the course should be continuous and progressive throughout a child's attendance at school; and that Drawing should, as far as possible, be taught in connection with the other forms of practical instruction. The course should comprise both Freehand and Mechanical Drawing in all classes, and in the Fifth and Sixth Classes might include very simple Model Drawing.

Recommendations.

In Freehand Drawing, the artistic faculties may, to a certain extent, be cultivated by the selection of examples correct in form, and possessing beauty of line.

The Mechanical Drawing, commencing in the First Class, when only the ruler should be used as an aid, should be gradually developed throughout the classes, and might in the case of rural schools lead up to the representation of buildings, fields, &c., in plan and to scale; and in the case of urban schools, or schools where woodwork is taught, to the representation of simple objects in plan, elevation, and section. The construction of the more simple geometrical figures should be taught incidentally in both cases.

Instruction in Drawing should be an integral part of the training of all teachers attending the Training Colleges. We do not consider that the possession of a certificate of ability to draw is absolutely necessary for a teacher, now engaged in school work, before he is allowed to give elementary instruction as indicated above; but we consider that some proof of ability to give instruction should be required from a teacher before he receives grants for such instruction. We also think that an opportunity of being trained in method and in the use of the blackboard should be available for all untrained teachers.

We consider that Drawing may be further utilised in elementary schools as an æsthetic training; but to be thus utilised it must be taught by a highly qualified person possessed of considerable trained ability.

The artistic abilities and tastes of the students may be cultivated to some extent and their originality and initiative encouraged by a carefully graduated course of design, in which brushwork and colourwork are used in addition to the pencil. We have seen

¹ Evid., vol. I., Meron, 1655-8. Evid., vol. II., E. Taylor, 3245-58.

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very admirable results obtained in the production of designs in colour, each student during a lesson developing a separate design of his or her own invention on general lines laid down for the day by the teacher.

We recommend that when any teacher has received an art training and satisfies the Commissioners of National Education that he possesses the necessary artistic ability, such teacher should be permitted to supplement the Elementary Drawing, by introducing art training throughout the classes, in accordance with a scheme, which he should be at liberty to develop according to his own taste, subject to approval by the Commissioners.

We think that every encouragement should be given to such developments, but they should only supplement, and not supersede, the elementary instruction which we have suggested.

Section IV.
ELEMENTARY
SCIENCE.
Definition.

IV.—ELEMENTARY SCIENCE.

We use the term Elementary Science as including the first elements of Natural and Physical Science suitable for schools, but not including Arithmetic, Algebra, or Geometry. As a subject of education Elementary Science is eminently practical, not only because it helps to give an intelligent knowledge of the material world, but also because it has a direct bearing on the arts and industries of modern life. The teaching of it begins with Object Lessons in the Kindergarten classes; and it may be continued all through the higher classes, with the aid of experimental illustration.

Present
condition of
science
teaching.

In Ireland, at present, various branches of Elementary Science are optional subjects for Classes V. and VI., under the Board of National Education. The courses prescribed are of the character in vogue many years ago, being designed rather to teach the results of scientific investigation, than to give any definite kind of mental training. Owing to a number of causes, including the smaller amount of the Results Fees offered by the Board of National Education, teachers have generally preferred to teach this subject in connection with the Science and Art Department. Within the last few years, however, this Department has ceased to pay for second class passes;¹ and in consequence the number of National Schools in which Science is taught under the Department, has seriously decreased. There are now, indeed, so few National Schools which teach any branch of Elementary Science, either in connection with the Board of National Education or with the Department of Science and Art,² that this subject may be said to have practically disappeared from the primary schools of Ireland.

In England, a course of Object Lessons, which may be regarded as the first stage of Elementary Science, is compulsory in the lower standards of primary schools; and many schools carry on a course of science teaching into the upper standards. In Scotland, too, considerable progress has been made, of late years, in the same direction. And on the Continent, some form of Elementary Science is almost everywhere compulsory in primary schools.

Evidence
received.

We have had evidence before us: (1) On the value of the training to be obtained from Elementary Science; (2) On the proper methods of giving it, and on the importance of adopting such methods; (3) On the interest which the pupils take in it; (4) On the possibility of introducing it into schools without any large expenditure on equipment and on current expenses.

Importance
of the study.

(1.) As to the importance of science training, all the witnesses are agreed.³ The mere fact that some form of it prevails in all kinds of schools in so many other countries outside Ireland, proves the consensus of opinion on the subject; and the fact that it is being more and more widely extended, is sufficient evidence that its importance and value have stood the test of experience. Nearly all the authorities insisted on the teaching of science as an efficient means of training the faculties. They pointed out

¹ *Evid.* vol. III, *Preston*, 11815-17.

² *Evid.* vol. III, *Preston*, 11766, 11818. *Sixty-third Report of the Commissioners of National Education in Ireland* (1896-7), p. 32.

³ *Evid.* vol. II, *Armstrong*, 3759-60, 3818-29, 3837-900; *Heller*, 3293, 4135; *Mayne*, 4183; *Stanley*, 4396; *Reaper*, 5145; *Perceval Graves*, 6396; *Hugh Gordon*, 7482; *Gladstone*, 3949-50. *Evid.* vol. III, *Arnold Green*, 10676; *Preston*, 11944. *Evid.* vol. IV, *Dr. Thomas*, 14217-80; *Burke*, 15035, 15049, 15077; *Scopel*, 23526-7; *Borrett*, 26109-18, 26126-2.

that it cultivates the powers of observation, and exercises both memory and understanding. The habit of drawing conclusions from facts, and the verifying of these conclusions by observation and experiment, tends to careful and correct judgment. The study of science makes constant appeal to individual reason: the pupil arrives at no conclusion without seeing it to be true; and thus his knowledge becomes more solid and thorough, and he gradually acquires self reliance in testing the accuracy of his observations. Finally, science must be the basis of all successful technical instruction.

Mr. A. E. Scougal, one of Her Majesty's Inspectors of Schools in Scotland, describes very well the educational ends that are attained by the introduction of this branch of work into the school course. He says:

"I think the place of elementary science is, in the first place, as I have said, to introduce an interesting variety into the curriculum, to meet a felt want in the course, that is to say, to meet a natural desire of the child's mind. A child is essentially an inquiring being, and it is a great pity that he should leave school without knowing anything about taking an intelligent conscious interest in his surroundings in the world and amongst his fellow men. The special educational objects of elementary science I take to be the training of the children's powers of observation, and of deduction from observations actually made; and the cultivation of their general intelligence, and, along with that, of greater width of vocabulary and greater precision and force in the use of language."¹

There was a general consensus of opinion as to the valuable effects of science teaching on the intelligence of the children.² We found it generally admitted by teachers that the children become quicker in taking in elementary subjects, through their having this science instruction.

(2.) As regards the proper methods of teaching science, and the importance of giving it on proper lines, we had a great deal of evidence.³ The general purport of the evidence may be summarised by saying that "in the teaching of science in elementary schools, instead of scientific facts merely being taught, the children should be rather taught how to find out things for themselves."⁴ It was held by all the expert witnesses that Elementary Science ought not to be taught without practical illustrations and experiments, in which as far as possible the pupils should themselves take part.⁵ Object Lessons should be used as a means of training the children to ask questions, and to learn from their observation, and not merely for the purpose of giving information.

(3.) The witnesses were satisfied that the children take a great interest in Elementary Science; and the classes we saw receiving this kind of training were evidently delighted with their task. This interest, we were assured, re-acts upon the other school subjects, and tends to vivify the whole work of the school.⁶

(4.) There can be no doubt as to the possibility of introducing Elementary Science into primary schools, as this has been done in a very large number of schools in England, Scotland, and on the Continent. The expense of introducing these subjects need not be very large, as was clearly proved by the evidence given.⁷ Some expense, of course, is necessary; and the cost of equipment and of maintenance should be provided without calling for any outlay on the part of the teacher.

We consider that the Board of National Education should determine, with some degree of precision, the general lines to be followed in the teaching of Elementary Science; but that considerable latitude should be allowed, within these lines, as regards the details of the course for each School. Each Manager might be invited to submit for the approval of the Board, a syllabus of the course which he proposes to adopt. It would be well perhaps, at the outset, if a number of specimen courses, suitable for different classes of schools, were prepared under the direction of the Board, as a definite guide to Managers and teachers. A system of this kind has already been adopted under the English and Scotch Education Departments.

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Section IV.
ELEMENTARY
SCIENCE.

Proper
methods of
teaching

Interest of
children in
the study.

Cost of
equipment.

Recommendations.

¹ Evid. vol. iv., 22337.

² Evid. vol. ii., Armstrong, 3908-12; Heller, 4164; Oaken, 6936, 7019-65; Hamer, 7196; Lomas, 8207-8; Gladstone, 9958. Evid. vol. iv., Cuthbertson, 53024.

³ Evid. vol. ii., Armstrong, 3769-7; Magnus, 4184; Reeper, 5145-8; Hugh Gordon, 7514-32; Gladstone, 9974, 10069-71. Evid. vol. iii., Arnold Graves, 10750-3. Evid. vol. iv., Scougal, 22528-30; Hartley, 26248-9.

⁴ Evid. vol. ii., Armstrong, 3981.

⁵ Evid. vol. ii., Gladstone, 10068-71.

⁶ Evid. vol. ii., Robinson, 3609; Armstrong, 3901-12; Hamer, 7199; Hewitt, 7887; Chalmers, 9474, 9658; Gladstone, 9968-70. Evid. vol. iv., Dr. Thomas, 14887-9, Burke, 15046-8; Paterson, 31294-1; Scougal, 22594, 22473-7.

⁷ Evid. vol. ii., Heller, 4114-36; Reeper, 5149; Hugh Gordon, 7481-2, 7500-1; Scott, 7509-12; Hewitt 7893-4, 7897; Lomas, 8204-5. Evid. vol. iv., Burke, 15036; G. F. Alexander, 23140, 23147-63.

Part II.
Section IV.
ELEMENTARY
SCIENCE.
—
General
principles.

The principles that should underlie every course of Elementary Science in primary schools, are these:—(1) The lessons should rather illustrate the general principles of science, than give prominence to any particular branch of science; (2) The method of instruction should be practical and experimental, special importance being attached to careful observation and exact measurement; (3) The pupils should as far as possible perform the experiments themselves, and should learn to devise experiments to test their observations; (4) The courses should include a study of solids and fluids, of simple chemical actions, and of natural classification of plants and minerals. The study of the various subjects should be so combined into a consecutive course as to train the pupils in the fundamental methods of science, and to produce habits of observation, of accuracy, of intelligent inquisitiveness, and of testing observations and explanations.

Object
Lessons.

In conducting Object Lessons, the intellectual training to be derived from them must be kept clearly in view. To interest the children in natural objects and phenomena, to train them to observe systematically and to put together and record their observations, these are the ends to be aimed at, and they can only be attained by continual practice. Pictures may be of use in extending the scope of the lesson, and interesting the pupils in matters outside their immediate experience. For example, in an object lesson on a piece of coal, a picture of a coal mine may be introduced to give the pupils interesting information as to matters outside the range of their experience; but this extended interest has a different educational end from the principal one of the lesson, and should not encroach unduly on the latter, and still less be substituted for it. Some teachers have been so anxious to convey general information, by means of these lessons, that they have overlooked the much more important aim, namely the intellectual training. Some have even gone so far as to suggest that when their pupils were being tested by the Inspector, it was not a suitable test if the objects were then present; evidently thinking that the lessons should have filled the pupils with information to be reproduced from memory, rather than have cultivated their ability to study objects intelligently.¹ The obtaining of general information, like the extending of the interests of the pupils beyond their immediate surroundings, is an important but subordinate end of Object Lessons. Being easy of attainment, and more easily tested than the really important intellectual training, there is great danger that the subordinate may be substituted for the more important end, unless continual attention be directed to the true purpose of Object Lessons.

The subjects available for Object Lessons are innumerable: plants and animals; food; manufactured articles; common minerals; natural phenomena, such as rain, snow, wind; simple machines such as pumps, pulleys hinges; local events, such as the building of a house, harvest operations. In every case, the lesson should be given with the object present. A lesson on snow should be given while snow is on the ground; a lesson on harvest operations, in a harvest field. While subjects of general interest of this kind should not be excluded, still most Object Lessons should be concerned with things collected by the pupils themselves or in ordinary use, should serve as helps and preliminaries to the ultimate teaching of science, and should therefore be given in a predetermined order, and with distinct reference to the more advanced science teaching which is intended to be afterwards taken up. The scientific spirit and the scientific method should be present, but should not be obtruded.²

Object Lessons should be arranged with special reference to the locality in which the school is situated, and to the circumstances of the children. The chief difference between schools should be as to the objects used. In town schools, for example, the objects would naturally illustrate physical science; in country schools, the natural history of plants and animals. In girls schools, special prominence might be given to subjects connected with domestic life.

We strongly recommend that Object Lessons in the junior classes, leading on to a more advanced course illustrated by experiments in the senior classes, should be made compulsory in National Schools, as soon as teachers can be sufficiently prepared to give this instruction in the proper way.

Experimental
Course.

In the experimental course the pupils should take part in the experiments themselves, as far as possible, and should write out descriptions of what they do and observe, and should be led to generalize intelligently and to test their generalizations by further experiments. Where measurements are made, they should be carefully recorded,

¹ Evid. vol. II., *De Part*, 5488-5500.

² Lectures on Teaching by J. G. Fitch, M.A., LL.D., Cambridge University Press, p. 365.

and the pupils should make simple diagrams of the apparatus used and of the arrangement of it for the purpose of the experiment. Thus, the teaching of Elementary Science may be made to furnish exercises in composition, in writing, in spelling, in arithmetic, and in drawing; so that it will not be detrimental to the proficiency of the pupils in these subjects, if some time be taken from them for Elementary Science.

For boys, the course of instruction in town schools might be framed on the lines of Course II. of the English Education Department¹. The details may be varied according to circumstances; but care should be taken to keep in view the fundamental idea that underlies it, the pupils being first trained in the method of conducting an investigation, and then led on to apply this method to the solution of a simple but definite problem. In country schools, the course of instruction for boys may be made, with advantage, to include those elementary principles of Science which have a direct bearing on the art and industry of Agriculture, as recommended in the next section.

The course of Elementary Science for girls, whether in town or country schools, may be the same as that adopted for boys; and this will often be found convenient in Mixed Schools under one teacher. But, in the larger schools, with more than one teacher, a separate course for girls, having special reference to Domestic Science, may be more desirable in many cases. A detailed syllabus of such a course, drawn up by Mr. Heller, Science Demonstrator under the London School Board, will be found in Appendix A.²

We strongly recommend that a course of Elementary Science on the lines here described in continuation of Object Lessons in the junior classes, be introduced into the higher classes of National Schools in Ireland. Where precisely in the school course Object Lessons shall merge into more definite science instruction is a question that will depend on the character of the teacher and of the pupils in each school, and is consequently one of the things in which great latitude should be allowed. This Elementary Science should be made compulsory as soon as teachers can be trained to give it. As this training will require time, it should be taken in hand with the least possible delay.

We desire to repeat, in reference to Elementary Science, what is stated elsewhere in this Report, in respect of other subjects of instruction, namely, that we do not consider that this kind of teaching can be satisfactorily tested by a mere examination of pupils in the form of question and answer, but that for its development along proper lines, it is essential that it be tested by inspection of the methods of instruction employed by the teacher, and by observing his success in interesting the pupils and awakening their intelligence. On the first introduction of these subjects, it will be desirable to provide fully qualified Science Organizers, an important part of whose duty it should be to advise teachers, and to help in drawing up detailed courses suitable for their schools.

We consider that instruction in special branches of science should not be given to pupils until they have substantially completed some general course, such as that which has been just described. Instruction in specific branches would more fitly find a place in "Continuation Schools," to be attended by pupils who have already completed their elementary education. Until such schools are established in sufficient numbers in Ireland, we are of opinion that special branches of science might be taught, as optional subjects, in Class VI. of the National Schools. Care must be taken, however, that this teaching shall not interfere with the general course of Elementary Science now recommended.

V.—AGRICULTURE.

So far back as the year 1837, the Commissioners of National Education in their Report for that year expressed their intention of providing for instruction in those branches of science which have a practical application to husbandry and handicraft. We find, however, that at present the branches of science "having a practical application to husbandry" do not hold so prominent a place in the school curriculum as the Report of 1837 would lead us to expect. While practical farming, so far at least as such a subject can be taught from a text book, is one of the chief branches of instruction.

Part II.
Section IV.
ELEMENTARY
SCIENCE.

Course for
Boys.

Course for
Girls.

Compulsory
as soon as
possible.

Method of
testing.

Special
branches of
science.

Section V.
AGRICULTURE.

¹ Appendix A. XVIII. (1.) (2.)

² Appendix A. XVIII. (3.)

Part II.
Section V.
AGRICULTURE.

Agriculture
in the
National
Schools.

Evidence
received.

Recommendations.

Agriculture is a compulsory subject for boys of the Fourth and higher classes in all rural schools, and it is optional for girls. Even in town schools the subject may be taught to boys and girls. In 1896, the number of pupils examined in it was 85,778, of whom 56,478 passed. The results fees amounted to £13,225.

The programme laid down by the Commissioners of National Education consists of various chapters of a text-book entitled "Introduction to Practical Farming," which deals with such subjects as the following: Cultivation of Land; Manures; Live Stock; Dairying; Gardening; Agricultural Implements; Land Drainage and Reclamation; Farm Fences, &c. The subject is taught in the National Schools, as a rule, entirely from this text-book,¹ and is unaccompanied by any practical illustrations,² a knowledge of the text-book alone being required by the rules of the Commissioners.

The evidence we have received throughout Ireland goes to show that the subject so taught is of little educational value.³ The children do not get any real grasp of the subject, as no efforts need be made to give them a practical acquaintance with the objects and processes described in the lessons. For example, Dr. T. J. Alexander, Head Inspector of National Schools in Cork, states that the "present book teaching is worthless."⁴ Mr. Purser, another Head Inspector, expressed the same opinion.⁵ Lord Montagu, who is much interested in agricultural education, is of opinion that "the present teaching out of a book is wholly useless, if not worse."⁶ Similar evidence was given by many other competent witnesses.⁷

This opinion is quite in accordance with the evidence we received in England. Mr. John Chalmers, Head Master of Burton School, Westmorland, stated that he would not think anything of a system of teaching agriculture merely out of books.⁸ Mr. James Bateman, Organising Secretary to the Westmorland County Council, was of opinion that mere text-book teaching of agriculture was useless.⁹ Another witness, Mr. C. Courtenay Hodgson, Organising Secretary to the Cumberland County Council, was of opinion that theoretical instruction without work by the pupils on an experimental plot was quite valueless.¹⁰ Mr. T. G. Rooper, one of Her Majesty's Inspectors of Schools in England, declared that he would never encourage the teaching of agriculture merely from books.¹¹

Moreover, we are strongly of opinion that even if the instruction were more efficiently given, the subject of Practical Farming forms no fitting part of the programme of a primary school. The details of the art of Agriculture can only be learned by practice on a farm and by pupils who are, as a rule, beyond the usual primary school age. The attempt to teach these details theoretically to children of school age can be of little profit. As regards the scientific aspect of Agriculture on the other hand, some preliminary training in the simplest elements of Natural and Physical Science is absolutely necessary for a proper appreciation of the bearing of scientific principles on the practice of farming. While therefore we fully recognise the great importance, especially as regards Ireland, of instruction in Practical Farming, we consider that this should be given only in special schools of a technical character.

We are, consequently, of opinion that the course in Agriculture at present prescribed for National Schools, should be altered. The new course should consist of instruction in the elements of the Natural and Physical Sciences that have a direct bearing on Agriculture; and this instruction should be given with the aid of experiments of a simple character, performed as far as possible by the pupils themselves. Such a course of instruction will be of a nature entirely within the capacity of the children of a primary school. It will afford a good disciplinary training for all children, even for those who

¹ *Evid.*, vol. i., *A. Hamilton*, 206; *Purser*, 585, 735; *Strange*, 882, 884; *Cerroff*, 1230-1, 1235. *Evid.*, vol. iii., *Alfredbrook*, 10489. *Evid.*, vol. iv., *Wolp*, 17670-2; *Kelly*, 17747; *Bannon*, 17835-6; *Cryan*, 18053-4; *Patterson*, 21216; *Pygton*, 24774, 24895.

² *Evid.*, vol. i., *A. Hamilton*, 216; *Purser*, 785.

³ *Evid.*, vol. ii., *Holland*, 12192. *Evid.*, vol. iv., *Dr. Thomas*, 14267-8; *Ladlow Bramick*, 14908; *T. J. Alexander*, 15173; *Dennisk*, 15004-7, 15518-4; *Ganille*, 15709; *Burrows*, 15907; *Montagu*, 16688, 16710; *Lally*, 16926; *Lynskey*, 17124; *Kelly*, 17779; *Bannon*, 17826; *Forbes*, 19463-8; *Burges*, 19746; *Dalton*, 20341; *McManis*, 21034; *Patterson*, 21217.

⁴ *Evid.*, vol. iv., 15173.

⁵ *Evid.*, vol. i., 735.

⁶ *Evid.*, vol. iv., 16710.

⁷ *Evid.*, vol. ii., *Armitage*, 2763-4; *Hugh Gordon*, 7552-3. *Evid.*, vol. iii., *Alfredbrook*, 10491; *James Gordon*, 11437-8, 11528-30; *Golden*, 12038; *Holland*, 12191-3. *Evid.*, vol. iv., *Dr. Thomas*, 14267-8; *Montagu*, 16688; *Dalton*, 20042-3; *Beatty*, 20395; *Professor Wallace*, 22456; *Pygton*, 24893-7.

⁸ *Evid.*, vol. i., 8672.

⁹ *Ibid.*, 9562.

¹⁰ *Ibid.*, 8730-1.

¹¹ *Ibid.*, 8197-8.

are not to be subsequently engaged in the practice of agriculture, while it will enable those who are to be so engaged, at a later stage to make intelligent use of scientific treatises on the subject.

The course in Agriculture, thus modified, will naturally constitute the course in Elementary Science for boys in rural schools.¹

In this connection we beg to draw attention to the following extract from a publication recently issued by the French Government on the "Teaching of Elementary Ideas of Agriculture in Rural Schools,"² which clearly expresses our views on the matter:—

"Instruction in the elementary principles of agriculture, such as can be properly included in the programme of primary schools, ought to be addressed less to the memory than to the intelligence of the children. It should be based on observation of the everyday facts of rural life, and on a system of simple experiments appropriate to the resources of the school, and calculated to bring out clearly the fundamental scientific principles underlying the most important agricultural operations. Above all, the pupils of a rural school should be taught the reasons for these operations, and the explanations of the phenomena which accompany them, but not the details of methods of execution, still less a *résumé* of maxims, definitions or agricultural precepts. To know the essential conditions of the growth of cultivated plants, to understand the reasons for the work of ordinary cultivation, and for the rules of health for man and domestic animals—such are matters which should first be taught to everyone who is to live by tilling the soil; and this can be done only by the experimental method.

"The matter whose teaching of agriculture consists only in making the pupils study and repeat an agricultural manual, is on the wrong path, however well designed the manual may be. It is necessary to rely on very simple experiments, and especially on observation.

"As a matter of fact, it is only by putting before the children's eyes the phenomena to be observed, that they can be taught to observe, and that the principles which underlie the success of modern agriculture, can be modified into their minds. It should be remembered that this can be done for the rural agriculturist only at school, where it will never be necessary to teach him the details which his father knows better than the teacher, and which he will be certain to learn from his own practical experience.

"The work of the elementary school should be confined to preparing the child for an intelligent apprenticeship to the trade by which he is to live, to giving him a taste for his future occupation; with this in view, the teacher should never forget that the best way to make a workman like his work, is to make him understand it."

We publish as an Appendix² a translation of the French official publication referred to above, embodying a scheme based on these principles. We are of opinion that such a scheme, suitably modified, should be introduced into Irish rural schools. It might with advantage be supplemented by a course involving calculations of areas and volumes from actual measurements; and in the higher classes, very simple mapping of fields and roads, from the pupils' own observations. The pupils should be encouraged to make collections of natural objects for themselves and for the school; to observe the injuries done by fungi and insects; and to keep small gardens of their own either in a school plot or in the neighbourhood of their own homes.

There are 47 National Schools having farms attached varying in area from 1½ acres to 48 acres, in which instruction is given not only in the theory but in the art of practical agriculture. These farms are technically known as "School Farms." The Commissioners of National Education, as a rule, have no property whatever in them: they belong either to the school patrons, managers, or teachers.

Special fees are paid for the proficiency in Agriculture of the pupils of these schools, and for the satisfactory condition of the farms. These fees amounted in 1896 to £661 3s. 8d. Payments are also made to certain of the pupils for working on the farms, to agricultural monitors for superintending the pupils, and to the teachers for training the agricultural monitors.

As the object of the School Farms is to teach Practical Farming, we do not consider that they should permanently receive aid from the Board of National Education. Aid might, however, continue to be given by the Board to existing farms, pending the establishment of a complete system of Agricultural Education in Ireland.

There are also 82 National Schools having gardens attached, usually less than one acre in extent, in which instruction is given in cottage gardening, poultry management, &c. These are known as "School Gardens."

Special fees are paid, as in the case of the School Farms, for the proficiency of the pupils in Gardening and for the satisfactory condition of the gardens. These fees amounted, in 1896, to £249 10s. 6d.

¹ See page 39.

² Appendix D.

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Agriculture.

French
scheme for
teaching
elementary
Agriculture.

School
Farms.

School
Gardens.

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Section V.
AGRICULTURE.

In order to give teachers facilities for experimental teaching, we recommend that School Gardens, each of which need not be more than one rood in extent, should be provided, where possible, in connection with rural schools. These gardens if well and tastefully kept, would have a refining and elevating influence on the children, and would thus indirectly tend to improve the surroundings of their own homes. Even where land is not available for School Gardens, the teacher should endeavour by simple experiments in the school-room to illustrate natural processes, such as the germination of seeds, the effect of manures, &c., and should utilise any opportunities afforded by the locality to exemplify the practical applications of scientific principles. In connection with this, the French scheme referred to above, will be found to contain many useful suggestions.

Agricultural
Training
Establishments.

The Commissioners of National Education have two Agricultural Training Establishments—the Albert Agricultural Institution at Glasnevin, County Dublin, and the Munster Dairy Farm and Agricultural Institute, near Cork. In both, instruction is given in the science and practice of Agriculture, Dairying, &c. The only direct connection that these establishments have with the primary schools is that National Teachers attend courses of agricultural training at the Albert Institution, and that students from some of the Dublin Training Colleges also attend lectures there. No pupils of National Schools attend either institution. Paying students are received at both of them, but a certain number of free places are offered for competition every year.

The Albert and the Munster Institutions are both doing excellent work, especially as regards Dairy instruction; but as technical training in Agriculture does not seem to us to be a subject that properly belongs to a system of primary education, we consider that these institutions should be handed over to some department having special charge of agricultural education. By a department of this kind the usefulness of such institutions might well be developed and their number increased. Arrangements, however, should be made by which both these establishments would still be available for the instruction of National School teachers in the sciences having a direct bearing on Agriculture, in so far as this cannot be sufficiently provided for in the Training Colleges.

Section VI.
Cookery,
&c.

VI.—COOKERY: LAUNDRY WORK: DOMESTIC SCIENCE.

COOKERY.—We regard Cookery as a most important branch of Practical Instruction. It is of special importance in Ireland where the labouring and artisan classes are sadly ignorant of the art of Cookery, their food in consequence being seldom prepared in as economical or nutritious a manner as it might be.

Besides, the evidence we have had in England and Scotland in reference to Cookery shows the attractiveness of the subject to the pupils, and its usefulness in securing greater regularity of attendance, and in encouraging the pupils to stay on longer at school.¹

Cookery in
the National
Schools.

According to the latest returns, viz., those for 1896, Cookery was taught in 83 National Schools in Ireland. 1,724 girls were examined in this branch, and 1,686 passed.

Before that year, the instruction in this subject had been carried on exclusively by members of the regular school staff, who either held certificates of competency or were regarded by the Commissioners of National Education as sufficiently qualified. Owing to difficulties arising from cost of appliances, expense of materials, and want of suitable accommodation, the instruction made but little progress. It was taken up in very few of either the Ordinary National Schools or the Model Schools, and may be said to have been confined to the Convent National Schools and to the Practising Schools of the Training Colleges for females.

In 1896 the Commissioners of National Education obtained from the Government leave to engage some special itinerant teachers of Cookery and Laundry work. The sanction was given only as an experiment, and the number of teachers for whose employment provision was made, was limited to four. The teachers to be employed

¹ Evid., vol. II., *Perceval Graves*, 3213; *Mrs. Hagan*, 6356-9; *Mrs. Collier*, 7353. Evid., vol. III., *Mrs. Power Lohr*, 11142. Evid., vol. IV., *Mrs. Paterson*, 33292-4.

were persons who were trained in these branches under the Royal Irish Association for Promoting the Training and Employment of Women, and who, at the close of their course of training, had undergone an examination and obtained from the National Union for the Technical Education of Women, diplomas of competency to teach.

These teachers travel through the country, remaining for a sufficient time at selected centres, and giving instruction in various National Schools in the district, one or more lessons of two hours being given in each school each week. The course embraces twenty Demonstration and Practice Lessons in Household Cookery suitable for National School pupils of Classes IV., V., and VI. The necessary room for the purpose is provided by the manager of the school, who also arranges for the supply of materials, and for such appliances as the special teachers may find necessary in addition to what they bring with them.

We are of opinion that this useful subject should be encouraged in the schools. Instruction might in many cases be given by special teachers in Centres¹ where the classes could be attended by the pupils of schools in the immediate neighbourhood; in others the instruction in this subject must be given by the ordinary school teachers. In the latter case special provision must be made for the training of the teachers by itinerant teachers or otherwise. We consider that the teaching of this subject should be continuous, not in the sense that it should be taught every day, but that it should be taught in one or more classes each week, throughout the year or a considerable part of it. We are of opinion that only plain Cookery should be taught; and that the appliances should be simple and mainly such as the pupils will have in their own homes. This branch may be successfully taught in ordinary schoolrooms, when not otherwise occupied, and with the simplest appliances.

It is now felt that such a subject as Cookery, useful as it is even if taught in a mechanical way, may become still more useful if made to aid the general course of education. The practical lessons should be supplemented by lessons in theory, and both should be interdependent.

The scientific principles underlying the subject should be explained and illustrated by experiments, as a part of the object lessons and other science lessons in the school.² The importance of accuracy in weighing and measuring should be insisted upon; the blackboard should be used for the setting out of directions; the reasons of the processes should be explained; and the children should write notes of the lessons, and a statement of the results of their work. These notes should be carefully revised by the teacher, had hand-writing, incorrect modes of expression, and errors in spelling, should be pointed out and corrected. The course should include demonstration lessons in which the processes should be gone through and explained by the teacher, and practice lessons in which the same processes should be gone through by the pupils. During the demonstrations simple lectures should be given, dealing with all points of the subject; e.g. the current prices of provisions, the cost of a meal, the methods of selecting meat. The character of the instruction should be tested by occasional visits of the Inspector whilst the classes are being taught, and in such other way as the Commissioners of National Education may determine.

We would refer especially to the account of our visit to the Central School at Bethnal Green, London, for a somewhat detailed statement of the manner in which lessons in Cookery may be effectively given.³

LAUNDRY WORK.—In Ireland Laundry work has only recently been recognised by the Board of National Education as a school subject, and is taught as yet in but very few schools.

When in England we inquired particularly into the systems of teaching Laundry work in the elementary schools, and we obtained much interesting information. We may refer especially to the systems in use under the London School

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Recommendations.

Laundry work in the National Schools.
Systems adopted in England.

¹ See pages 56, 57.

² *Evid.*, vol. II, *Bancroft*, 10117.

³ Appendix A, VII.

See also Appendix A, XXI. Scheme of Instruction in Cookery, &c., under School Board for London;

Appendix A, XXV. (3). Syllabus of Cookery Lessons for Elementary Schools;

Appendix A, XXX. (4). Course under Barrow-in-Furness School Board.

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Cookery,
&c.

Board and the Barrow-in-Furness School Board. Under the London School Board, Laundry work is an obligatory subject for girls in the higher standards. A lesson is usually of two hours' duration, one hour being devoted to a demonstration by the teacher, and one hour to practice by the pupils. The course consists of eleven lessons, one lesson being given each week for eleven weeks.¹ In Barrow-in-Furness, there is an excellent scheme of Laundry work instruction.² There is one marked difference between the system in Barrow and that in London. In London the instruction is given by one lesson a week until the course is finished. In Barrow the course consists of ten consecutive lessons, and a class of fourteen goes through the entire course in one week, attending morning and afternoon. Both in London and in Barrow, the "Centre" system³ is adopted for teaching Laundry work.

Recommendation.

We recommend the encouragement and extension of instruction in Laundry work. The instruction should proceed on lines similar to those which we have laid down in the case of Cookery. The circumstances of the schools and of the districts in which they are situated, will determine whether the course should be one of consecutive lessons, as in Barrow-in-Furness, or of lessons given at intervals, as in London.

The account of our visit to the Bethnal Green Centre, referred to above, will be found to contain useful information on instruction in Laundry work.⁴

Domestic
Science in
the National
Schools.

DOMESTIC SCIENCE.—The courses⁵ laid down by the Commissioners of National Education comprise certain portions of special text-books on Domestic Economy and Hygiene. These are recognised as extra subjects, and may be taken by girls in the Fifth Class and upwards. The courses extend over two years, and the examinations are confined to testing the pupils' knowledge of the contents of the text books under such heads as the following, viz. in Domestic Economy :—Food ; Clothing ; Cleanliness ; The Dwelling ; Simple Ailments ; and in Hygiene :—Air ; Breathing ; Ventilation ; Water ; Alcoholic Liquors ; Food.

In 1896 Domestic Economy was taken up in 151 schools, in which 1,570 pupils were examined, and 1,030 passed ; and Hygiene in 28 schools, in which 535 pupils were examined, and 379 passed.

Recommendation.

The acquiring of information on such subjects from text-books is useful, but it is still more necessary that a power of applying this information should be gained. Such power can only be gained by a thorough knowledge of the principles involved, such as can be obtained from actual experimental observation.

The theoretical portion of the subject should be studied by means of lessons well illustrated by experiments, which if possible should be performed by the children themselves. These lessons should commence with a preliminary training in accurate measurement, and they should include the following :—A study of the laws of gases in general, especially the atmosphere and its composition, leading to the principles of ventilation and causes of contamination ; some knowledge of the theory of heat, and of the effects of heat on organic matter ; a study of water, its chemical composition, the cause of hardness, and power of solution ; the chemistry of the more simple substances used in the household ; a study of the materials of clothing, and the effects of heat, water, &c., on them ; the outlines of Human Physiology, breathing, digestion.

From such instruction, which would form a suitable course of elementary science for girls, the same educational results may be looked for, as have been more fully described in the section of our report dealing with Elementary Science.

A good example, in our opinion, of the kind of course in Domestic Economy and Hygiene that should be given in a girls school may be seen in Appendix A.⁶

House-
wifery.

We found during our visit to London, that practical application of Domestic Economy, under the name of Housewifery, has been recently introduced by the School Board.

¹ *Evil*, vol. II., *Mrs. Hewson*, 5384. For Syllabus, see Appendix A, XXI (8).

² *Evil*, vol. II., *Mrs. Lawrence*, 10346–10426. For Syllabus, see Appendix A, XXX.

³ See pages 56, 57.

⁴ Appendix A, VII.

⁵ *Rules and Regulations of the Commissioners of National Education in Ireland* (June, 1890), p. 73.

⁶ Appendix A, XVIII (3).

In the one instance that came under our notice—viz., in the Central School at Bethnal Green, London,—the method employed was said to work successfully.

The following extract from the evidence on this subject of Mrs. Homan, Member of the School Board for London, and Chairman of the Domestic Subjects Committee of the Board, will show the usefulness and interesting character of the experiment :—

"We have, wherever we possibly can, four small rooms, consisting of a kitchen, a small sitting-room, a small bedroom, and scullery, so as to represent, as far as possible, a workman's small dwelling, and the girls are taught to do the whole of the work of the house in proper order, and with proper method; that is to say, they are taught to do the whole week's work, and map it out in a methodical, proper manner; they are also taught a good deal of the theory upon which it is based, and they have theoretical lessons given them in the class, with desks upon which they take notes, and have examinations on the blackboard, and diagrams, and so on, and have notes of lessons, as well as doing practical work."

We also found at our visit to the Loreto Convent National School at Bray, near Dublin, that Housewifery had been introduced there about ten years ago. It is carried out on a smaller scale than at the Bethnal Green Centre, and exclusively at the expense of the Loreto Community, as the subject has not yet been recognised by the Commissioners of National Education. We were informed that the subject has proved both useful and attractive to the senior girls.

While we are of opinion that Housewifery can seldom be introduced as a subject of instruction in National Schools, still, so far as it is practicable, it is undoubtedly useful, and provision should be made for it in the Rules of the Commissioners of National Education.

VII.—NEEDLEWORK. SPECIAL INDUSTRIES.

From the foundation of the system of National Education in Ireland, provision was made for the instruction of girls in needlework; but the precise amount of time to be devoted to this branch was not fixed prior to 1890. In the year 1890, the Commissioners decided that the minimum time to be devoted to needlework, &c., should be one hour daily, and the existing rule is :—

"That instruction shall be given in plain needlework in all Schools in which Female Teachers or Workmistresses are employed, and that in all such Schools, every girl in classes in which needlework is required to be taught, shall be under instruction in needlework for at least one hour on each of the five school days of the week, unless on application of any Manager the Board may, for special reasons, dispense with this rule in his School."

The Commissioners provide¹ that in a mixed school (i.e. for boys and girls) conducted by a master, in which there is no female assistant, a Workmistress may be employed, during two hours daily, when there are at least twenty girls in average attendance.

The ordinary course of needlework instruction extends from the Second to the Sixth Class inclusive. In the lower classes it comprises hemming and knitting, plain patching and darning, making pinafores, cutting pattern of plain shirt or of article of girls' underclothing, overalls, &c., and, in the Sixth Class, it requires proficiency in the different branches of plain sewing and knitting.²

In their Report for 1896 the Commissioners state that, during that year, 174,353 girls were examined in needlework, and that 161,965 passed.

In the year 1889 the Commissioners introduced, for girls of the Sixth class attending National Schools in which a female teacher was employed, a new programme,³ in which the industrial course of instruction was more advanced than that previously in operation in the Sixth Class, while the literary course was reduced in extent.

Feeling, however, that difficulties might arise in some localities in the adoption of the new programme, the Commissioners provided that should any manager, for special reasons, apply for exemption from it, his school might be exempted; and they state in

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Cookery, &c.
—

Recommendation.

Section VII.
Needlework, &c.

Needlework in the National Schools.

Workmistresses.

Ordinary course.

"The Alternative Scheme"

¹ *Evid.*, vol. II., Mrs. Homan, 6367.

² *Rules and Regulations of the Commissioners of National Education in Ireland* (June, 1890), p. 1.

³ *Ibid.*, p. 20.

⁴ *Ibid.*, pp. 604.

⁵ 58th Report of the Commissioners of National Education in Ireland, p. 26.

their Report for 1896 that it was found, at the close of that year, to be carried out by 1,487 schools, representing only about one-third of the schools in which it might possibly have been taken up.

The requirements of the combined literary and industrial programme, styled, in the Commissioners' Rules for 1890, the "Alternative Scheme for girls of Sixth Class," were as follows:—

Literary Programme.	{	Reading (which should include Text Books on suitable industrial subjects, and on Domestic Economy, with knowledge of the subject matter).
		English Composition, including Letter Writing on various subjects, which should embrace Geography, Grammar, &c., still as Penmanship to be taken into account.
Industrial Programme.	{	Main Needlework (in its various developments, including Shirtmaking) This must be one of the three industrial subjects to be taken up daily in each of the two years of a Sixth Class Course.
		Subjects in Classes A and B (as below), any two of which may be adopted at the choice of the Manager, and within the capacity of the Teacher.

CLASS A.—1. Dressmaking (plain); Underkirt-making. 2. Fine Underclothing; Baby Clothes. 3. Knitting and Crocheting of Jerseys, Caps, Wraps, Vests, Petticoats, Socks, Stockings, Gloves, Slippers, and similar articles. 4. Good repairing of garments, hose, house and table linen, &c., such as darning (damask and invisible), fine drawing, re-lining, re-binding, re-litting, re-bottoming, tanning; also plain tignon marking. 5. Clothwork, viz.:—Girls' Jackets, Children's Cloaks and Newmarkets, Little Boys' Suits, Banding, Tailor-bottoming. 6. The washing, carding, spinning, and weaving of wool. 7. Treatment of flax and weaving of linen.

CLASS B.—1. Lace making—Yongel, Limerick, Carrickmacross, Immaculate, or other recognised kind. 2. Montedick Work—Springing (on Handkerchiefs, &c.), conventional marking of Laces. 3. Art Needlework, including Embroidery from Celtic patterns. 4. Gold and Silver Lace Work—Ecclesiastical Embroidery. 5. Hagios—Parasute Embroidery. 6. Glove-making. 7. Artificial Flower-making. 8. Basket-making—Indian Matting—Straw Matting, Straw Chairs, Straw plaiting, &c.; other articles produced from Straw, or Wicker. 9. Other kinds of Cottage Industries, such as Wood Carving, Net Mending, whose local or suitable.

When introducing this new programme for Sixth Class girls, the Commissioners addressed an explanatory memorandum on the subject to the managers and teachers of National Schools, in which, in reference to girls who had satisfactorily passed the two stages of the Fifth Class, they expressed the opinion that the industrial or practical part of their education, although fairly advanced so far, was yet manifestly susceptible of large and important extension, and stated that they resolved that girls who had passed the two stages of Fifth Class should devote the remainder of their school life mainly to industrial education so as to prepare them for the practical duties of their homes, or for employment in profitable industries.

To carry out this idea, it was arranged that about two hours a day of the ordinary school hours should be devoted by the Sixth Class girls to plain Needlework and special industrial branches.

Recommendations.

We consider that the requirement of an hour a day for needlework in the classes generally is excessive, and we suggest that the minimum time set apart for this subject should be three hours a week. From what we have seen in English schools and from the inquiries we have made we are satisfied that three hours a week is quite sufficient. The proposed introduction of other subjects of practical instruction is an additional reason why less time than at present should be devoted to Needlework.

There is great danger of Needlework becoming mechanical.¹ The evidence of Sir Joshua Fitch, on this point, is deserving of careful consideration:—

"Needlework is a very useful art as we all know, but it is an art that children may sit and dawdle over for many hours in a state of complete mental vacancy; there is extremely little in needlework, as commonly taught, to draw out intelligence or inventiveness, or mental effort of any sort."²

To guard against this danger special attention should be paid to the educational side of the subject, and, to this end, the work should be varied, and, where possible, frequent demonstrations on the blackboard should be given.

As regards the "Alternative Scheme," we consider that the two hours a day devoted to industrial instruction under this Scheme is excessive, and that many of the subjects

¹ Evid. vol. II, Fitch, 6528-33, 6425-30. Oulton, 6935-9. Evid. vol. IV, S. M^cC. Murray, 22191-3.

² Evid. vol. II, Fitch, 6528.

included under it are unsuited to primary schools. We therefore think that this scheme should be discontinued. We are, however, of opinion that the first four subjects in Class A of the scheme, viz.:—Dressmaking (plain); Fine Underclothing; Knitting and Crocheting of Jerseys, &c.; Good repairing of garments, hose, &c., should be taught as *extra* subjects, either within, or outside of, school hours.

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WORK, &c.

In the case of a mixed school conducted by a master, in which there is no female assistant, we are of opinion that an average attendance of twelve girls should warrant the appointment of a Workmistress. We also consider, especially as no pension is attached to the position, that the present rate of remuneration of Workmistresses—£12 a year—is quite inadequate.

Special Industrial Departments are recognised in connection with certain National Schools,¹ if the managers desire that special provision be made for the instruction and training of externs, as well as of female pupils who have passed through the Sixth Class, in Embroidery and other advanced kinds of Needlework, or other approved branches of industrial instruction for females. A salary, dependent upon the circumstances of the case, is awarded to a Special Industrial Teacher thoroughly qualified to organize and conduct such instruction. This Teacher is charged with the special supervision of the entire industrial education in the school, including the Plain Needlework, &c., prescribed in the programmes of the several classes; but the recognition of a Special Industrial Teacher does not relieve the ordinary female teachers of the school from the obligation of giving efficient practical instruction, under the supervision of the Special Industrial Teacher, in Plain Needlework, &c., to the pupils of the school classes.

Special
Industrial
Depart-
ments

The number of these Departments on December 31, 1896, was sixty-one.

We consider that the only subjects of an industrial character with which the Commissioners of National Education should have to do are those, such as simple dressmaking, cookery, &c., which form an essential part of a girl's education, having regard to the efficient discharge of her household duties.

Recesses
of Coes.

At present, however, other subjects of an industrial character are taught in some of these departments, such as:—Art Needlework, Book-binding, &c. Similar subjects, such as Net-mending, Weaving, Dairy Management, Poultry-keeping, Bee-keeping, are taught under the head of "Cottage Industries."² We are of opinion that instruction in these subjects, and provision for industrial employment would more properly fall within the scope of a special Department of Industries.

VIII.—SINGING.

We have already referred to the large part played in the Kindergarten by Singing and by rhythmical movements of various kinds.³ We regard these as essential elements in a scheme of complete education for older children as well as for infants.

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SINGING.

Singing is recognised in the programme of the Board of National Education as an optional subject, for which a results fee, varying from 1s. 6d. to 3s. in the different classes from the second to the sixth, may be paid. In the year ended December, 1896, the number of pupils examined in Singing was 75,847, in 1,217 schools; and a sum of £7,586 was paid on account of 65,289 passes.

Singing
in the
National
Schools

The Report of the Commissioners for 1896-7 states that the Tonic Sol-fa method is now generally adopted by managers. This method is so simple that by means of it very young children can be taught to sing by note. Indeed, instances are of frequent occurrence where the power of singing by note is acquired by children to some extent before they have learned to read. The method admits, moreover, of easy gradation; it proceeds in accordance with strict educational principles, the practical application of which it admirably illustrates; and it can be made the means of introduction to even the highest forms of music.⁴ It is shown by the experience of many schools, both in this country and in England and Scotland, that by means of this method even junior classes can be brought to sing from notation at sight, and to regard this not as a difficult task

The Tonic
Sol-fa
method.

¹ *Rules and Regulations of the Commissioners of National Education in Ireland (June, 1890)*, pp. 6-7. *Ibid.*, p. 72.

² See page 12.

³ *Evid.*, vol. i., *Miss Dailly*, 5923-35; *Goodwin*, 5058-93.

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Singing.

but as a pleasant exercise. To the pleasure derived from singing—such as might be had from singing by ear—there is added the pleasure of conscious mastery over a new form of expression.

We think that having regard to the simplicity of the Tonic Sol-fa method, there should be but few teachers who could not with some little trouble acquire a practical knowledge of it so as to be able to use it profitably in the instruction of their pupils. It ought to be regarded as part of the normal function of the teacher in a primary school to teach the elements of vocal music to the pupils, and the school in which vocal music is not taught should certainly be the exception.

It is to be regretted that up to the present the contrary has been the case in Ireland. The official figures showing the extent to which Singing is taught in the elementary State-aided schools of England and Scotland on the one hand, and in the National schools of Ireland on the other, are instructive in two respects. Whilst they indicate how backward in this respect the National schools of Ireland still are, they also plainly show that Singing may readily be made a subject of very general, and indeed practically universal, instruction in primary schools.

For the year ended in 1896, the official figures¹ are as follows:—

	Number of Schools or Departments Inspected	Number of Schools or Departments in which Singing was Taught	Percentage of Schools as compared with those in which Singing was Taught	Average Attendance in Schools or Departments Inspected	Number of Pupils for whom the Grant for Singing was Paid	Percentage of Pupils for whom the Grants for Singing was Paid	Amount paid in Grants for Singing ²
England, . . .	30,521	30,464	99.88	4,440,942	4,437,555	99.88	206,034
Scotland, . . .	3,533	3,414	96.63	566,914	599,571	99.25	28,696
England and Scotland,	34,054	33,878	99.54	5,007,856	5,037,126	99.83	234,730
Ireland, . . .	8,405	1,217	14.48	532,538	65,289	12.26	7,556

Restrictions
in force in
Ireland.

In considering these figures, two points are to be borne in mind. In both England and Scotland, the grant for Singing—reduced, however, by one-half—may be earned by a school in which Singing is taught, not by note, but by ear only. Again, in neither country is it required as a qualification for the teaching of Singing, that any special certificate of competency to teach it shall be held by the teacher. In both respects, the regulations in force in the National Schools of Ireland are altogether more stringent: in the Irish National Schools singing by ear is not recognised at all, and no teacher can become entitled to a grant for the teaching of Singing who does not hold a certificate of competency to teach it. Such a certificate is to be obtained by passing an examination in a course prescribed by the Commissioners of National Education, the percentage required for passing the examination being 50 per cent.

¹ The returns from which the figures are taken are, in each instance, the latest as yet available (May 6, 1896). For England, the figures are those of the year ended 31st August, 1896; for Scotland, they are the figures of the year ended 30th September, 1896; for Ireland, they are the figures of the year ended 31st December, 1896.

In each case, the figures regard only the schools that were actually inspected, for the purpose of the State grant, within the year.

It may be useful to observe that, as regards both England and Scotland, the "average attendance" indicated by these official figures is not the actual average attendance in the schools in question, but is the result of a computation, and is described in the official returns as the "average attendance for payment," that is to say, it is the attendance as calculated for the purposes of the State grant.

In England, for 1896, this computed "average attendance" was 15,031 above the actual average attendance for the year; and in Scotland, for the same year, the computed "average attendance" exceeded the actual average attendance by 2,065. In England, and to some extent in Scotland, the excess of the computed, above the actual, average attendance arises from the fact that in both countries the attendance of pupils of the class generally known as "half-timers" is reckoned on a somewhat liberal principle, each attendance, within certain limits, being counted, in the case of such pupils, as an attendance and a half. (See the English Education Code for 1896, art. 12 (8), and the Scotch Code for the same year, art. 23 (8) 1.) In Scotland, a similar allowance is furthermore made in the case of all pupils who render "two miles or upwards from a suitable State-aided school." (See the Scotch Code for 1896, art. 23 (8) 2.)

It is obvious that the general introduction of the teaching of Singing in the National Schools of Ireland is not to be hoped for until these restrictions are relaxed. The detailed statistics published in the annual Reports of the English and Scotch Education Departments make it plain that the present widespread extension of Singing in the Elementary Schools of England and Scotland has come about through a gradual process of transition,—singing by ear having at first held a position of great prominence, from which it has gradually been displaced by the substitution of singing by note. As regards England, this is fully illustrated by the following figures :—

Part II.
Section
VIII.
SOURCES.
—
Need of
relaxing
them.

YEAR.	NUMBER OF SCHOOLS OR DEPARTMENTS.				Average Attendance in schools or Departments inspected within the year.	NUMBER OF PUPILS*			PERCENTAGE OF PUPILS		
	Inspected within the year.	In which Singing was taught by Ear.	In which Singing was taught by Note.	In which Singing was not taught.		For whom the Grant for Singing by Ear was paid.	For whom the Grant for Singing by Note was paid.	For whom the Grant for Singing was not paid.	For whom the Grant for Singing by Ear was paid.	For whom the Grant for Singing by Note was paid.	For whom the Grant for Singing was not paid.
1853-4.	17,385	15,385	9,348	417	2,261,212	1,367,572	1,383,655	15,584	60.42	59.56	40
1854-5.	18,386	17,303	10,307	154	2,322,302	1,376,995	1,384,613	16,760	59.28	44.82	35
1855-6.	17,840	17,630	11,525	186	2,400,436	1,736,546	1,736,927	9,223	49.72	50.28	36
1856-7.	18,304	16,961	12,721	77	2,642,179	1,684,544	1,564,229	5,349	46.62	59.12	35
1857-58†.	19,339	18,684	15,227	22	2,740,586	1,779,867	2,212,562	4,066	59.80	67.50	34
1858-9.	19,054	9,652	20,166	41	2,719,000	1,664,673	2,225,374	4,353	57.55	75.72	24
1859-60.	19,274	1,264	22,560	37	2,640,967	1,644,364	2,302,562	3,967	54.98	85.81	28

The same process of transition from singing by ear to singing by note has been in progress in Scotland. In Scotland, however, throughout the period covered by the above table, singing by ear has held a much less prominent place than in England. Taking the latest available figures—those for 1895-6,—we find that in that year, the grant in Scotland was paid on 557,391 pupils for singing by note, and on only 33,380 for singing by ear, representing percentages of 94.36 and 5.64, respectively: the corresponding percentages for England, in that year, being 85.71 and 14.29.

Incidentally we may here point out that the principle on which the grants for the teaching of Singing are paid in the Elementary Schools of England and Scotland is altogether different from that on which these, as well as all other grants for the teaching of special subjects, are paid in the National Schools of Ireland. In Ireland, all such payments are made exclusively in the form of Results Fees, the amount to be paid in each school depending upon the number of pupils who individually pass an examination held by the Inspector. But in England and in Scotland, the payments are made as capitation grants, so that the amount payable to a school is regulated, not by the results of an individual examination of the pupils, but by the average attendance of pupils in each class in which Singing is satisfactorily taught.

The grants for Singing.

We have elsewhere referred to the amount of time which the Inspectors in Ireland are at present obliged to devote to the mere work of examination, and to the extent to which they are thus hampered in the discharge of other obviously important duties of their office. We feel bound to point out that a widespread extension, such as we contemplate, of the teaching of Singing in the National Schools of Ireland, could not but seriously aggravate this disadvantage, unless a system such as that on which the grants are paid in England and in Scotland be substituted for the system of individual examination and payment by Results Fees, which is still maintained in Ireland. It is important here to observe that in the official instructions to Her Majesty's Inspectors of Elementary State-aided Schools in England, under the head "Instructions as to Examination in Singing," the first instruction given to the Inspectors is that "the music-tests are not to be applied to individual children."

The Results System.

* In consequence of a difference in the form in which the official returns were issued, it is not possible to include in the table the figures for the years preceding 1853-4.

† It will be observed that from 1856-7 onward, the figures are given for every third year only.

‡ As singing by ear is much rarer in the larger than in the smaller schools, the number of pupils singing by note is relatively much greater than the number of schools or departments in which singing by note is taught.

* See page 54.

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VIII.
SINGING.
—
Progress.

As we have made special reference to the Tonic Sol-fa method, it seems not out of place to add that one of the most notable series of figures in the official returns for England and Scotland is that which records the steady continuous increase in the adoption of this method in the schools of both those countries. The closeness with which the transition from singing by ear to singing by note corresponds with the continually increasing adoption of the Tonic Sol-fa method in the schools, is eminently worthy of notice.

The figures for England are as follows :—

YEAR ¹	NUMBER OF SCHOOLS OR DEPARTMENTS				
	In which Singing was Taught.	In which Singing was Taught by Ear.	In which Singing was Taught by Note.	In which the Tonic Sol-fa Method was followed.	In which some Method other than Tonic Sol-fa was followed.
1883-4, . .	27,841	18,593	9,348	6,773	2,475
1884-5, . .	28,243	17,935	10,307	8,171	2,136
1885-6, . .	28,545	17,020	11,525	9,307	2,128
1886-7, . .	28,858	16,961	12,797	10,641	2,156
1889-90, ² . .	29,371	13,054	16,327	13,893	2,534
1892-3, . .	29,761	9,855	20,106	17,503	2,603
1895-6, . .	30,484	7,304	23,380	20,475	2,603

Thus, in England, where, in the twelve years from 1883-4 to 1895-6, there has been an increase of 14,032 in the number of schools or departments in which Singing is taught by note, there has been, within the same period, the almost identical increase of 13,905 in the number of schools or departments in which the Tonic Sol-fa method is followed.

So, too, in Scotland, from 1883 to 1896, the number of schools or departments in which Singing is taught by note has increased from 1,940 to 2,806, an increase of 866; and within the same period the number of schools or departments in which the Tonic Sol-fa method is adopted has increased by the closely-corresponding number of 827.

Recommendations.

We regard these facts as pointing clearly to the conclusion that if singing by ear be recognised as a subject for a grant in the National Schools of Ireland—as it has for so many years past been recognised in the elementary State-aided schools of England and Scotland,—the working of the Tonic Sol-fa method may be relied upon to bring about the gradual, and even speedy, introduction of singing by note as a general subject of instruction in Irish National Schools. But it will rest with the Commissioners of National Education to make such regulations as will ensure that the recognition of singing by ear shall not become the occasion of introducing into the schools anything unworthy of the name of music, or calculated to hinder rather than help the advancement of the pupils to a higher form of vocal training.

Section IX,
Drill, &c.

IX.—DRILL AND PHYSICAL EXERCISES.

Drill and Physical Exercises are recognised as subjects of instruction under the Board of National Education, in connection with Kindergarten.

Present condition in Ireland.

Such exercises form a prominent feature in the training of children on Kindergarten methods, and in National Schools where Kindergarten occupations are taken, the younger children are taught “to sing action songs, and go through calisthenic

¹ See page 46, footnote 1.

² See page 49, footnote 1.

exercises and simple Kindergarten games."¹ But out of the 8,606 National Schools in operation in 1896, the Kindergarten system was practised in only 357, so that in the vast majority of National Schools, there is no official recognition of any kind of physical training. In a few instances we have found managers encouraging such training in their schools, but the great mass of the pupils in the Irish primary schools receive no training in this useful branch of practical education.

In England and Scotland, we found that considerable attention is paid to the physical training of the children in the primary schools. The children in the Kindergarten classes receive systematic instruction in those simple and pleasant exercises which have for their object the development and strengthening of the body, and the training of the mind in habits of order and prompt obedience. But such instruction does not cease when the children leave the Kindergarten classes. It is carried on throughout the Standards, and the older scholars, both boys and girls, have the advantage of this training all through their school life. It is to be noted, too, that the highest grant for discipline and organisation will not be paid to any school in England or Scotland, in which provision has not been made in the time table of the school for some form of Drill or suitable Physical Exercises.²

Almost every European country has its own system of school Drill, and the subject is considered so beneficial that it is compulsory in most elementary schools. It is evident from the reports we have received, that the subject is regarded as most valuable in itself, and as affording a pleasant variation in the work of the day.

It cannot, we think, be denied that the physical training of school children, both boys and girls, is of great importance. It makes them alert and orderly, trains them to hold themselves erect and to walk properly. It is especially desirable in towns, where bodily training in games, garden-work, and out-door occupations can rarely be obtained by children of the working classes. For girls, both in town and country schools, it is particularly needed. Such training is no additional burden on school life. On the contrary, it is found from experience that it increases the attractiveness of the schools, and provides a welcome variety of occupation. Besides this, it develops physical strength, and the children return from it to their literary work with renewed zeal and energy.³

But in addition to systematic Drill and Physical Training, much good can be accomplished by insisting on the children being orderly in their movements in the school-room when moving from place to place, from class to class. The advantages of such a discipline are well described by Sir Joshua Fitch:—

"You will gain much in a school by cultivating the habit of order and exact obedience about little things. There are right and beautiful ways, and there are clumsy and confused ways, of sitting down at a desk, of moving from one place to another, of handling and opening books, of giving out pens and paper, of entering and leaving school. Petty as each of these acts is separately, they are important collectively, and the best teachers habitually reduce all these movements to drill, and require them to be done simultaneously and with mechanical exactness. Much of this drill is conducted in some good schools by signs only, not merely because it is easy so to economise noise and voice power, but also because it makes the habit of mechanical obedience easier. And children once accustomed to such a régime always like it—nay, even delight in it."⁴

A system of school-room Drill such as is indicated in the above quotation, will induce habits of regularity and obedience, and consequently will be a great aid towards efficient organization and discipline in the school.

¹ *Rules and Regulations of the Commissioners of National Education in Ireland (June, 1890)*, p. 66.

² Under the heading "a Grant for Discipline and Organisation of 1s. or 1s. 6d.," the directions of the English Education Code which have been in force for some years past, are as follows:—

"The Department shall decide which, if either, of these sums shall be paid after considering the report and recommendation of the Inspector.

"The Inspector, in recommending either the higher or the lower of these grants, will have special regard to the moral training and conduct of the children, to the tidiness and order of the school premises and furniture, and to the proper classification of the scholars, both for teaching and examination. The Inspector should also satisfy himself that the teacher has not unduly pressed those who are dull or delicate in preparation for examination at any time of the year.

"The higher grant for discipline and organisation will not be paid to any school in which provision has not been made in the approved Time Table for instruction in Swedish or other drill, or in suitable physical exercises; but children employed in labour and attending school half-time, and children for whom such instruction is unsuitable, may be exempted."

³ Evid., vol. II, *De Part*, 5522; Evid., vol. IV, Dalton, 20683; B. J. Clarke, 20637-9; Brewster, 20622; Carys, 20645; Kerr, 20619-23, Kingswell Moore, 20454.

⁴ *Lectures on Teaching* by J. G. Fitch, M.A., LL.D., Cambridge University Press, p. 96.

Part II.
Section IX.
Drill, &c.

In England
and Scotland.

On the
Continent of
Europe.

Advantages.

Part II.
Section IX.
Data, &c.
Recommendations

We accordingly are of opinion that it is most desirable that some simple form of Drill and Physical Exercises should be encouraged in all schools under the Board of National Education; and we think that such encouragement might be most fittingly given in the form of a grant for discipline and organisation, one condition of awarding the grant being that some approved and systematic instruction in Drill and Physical Exercises is regularly and efficiently given.

Part III.

PART III.

COLLATERAL CHANGES IN OTHER PARTS OF THE EDUCATIONAL SYSTEM OF THE NATIONAL EDUCATION BOARD.

The development of Manual and Practical Instruction in the primary schools under the National Education Board, in accordance with the recommendations we have made, will involve certain changes in other parts of the educational system of the Board. Time must be found for the teaching of the new subjects, teachers must be trained to teach them, and provision must be made to secure the harmonious and efficient working of the new subjects and the old in one organised system. We have carefully considered this question, and we feel that our task would be incomplete, if we did not here point out what the changes are, which, in our opinion, will be necessary for the purposes referred to, and how these changes may best be carried out. The changes required may be considered in reference to the following:—(I.) Programme of Instruction in National Schools; (II.) Methods of Examination and Inspection of National Schools; (III.) Training College Courses; (IV.) Provision for special training of Teachers in charge of Schools; (V.) Provision for the Association of Schools and of School Managers; (VI.) Evening Schools.

Section I.

I.—CHANGES IN THE PROGRAMME OF INSTRUCTION IN NATIONAL SCHOOLS.

The introduction of the subjects of manual and practical instruction which we recommend, will render necessary some modifications in the existing Programme of Instruction for pupils in National Schools.

School hours.

The Commissioners of National Education lay down in their Regulations that not less than four hours per day must be provided on the Time Table for the ordinary secular business of the school, but that this may include a play-time of not more than half-an-hour. As a rule, however, schools are kept open for about an hour longer than the minimum time. This additional hour is usually devoted to the teaching of extra subjects.

Compulsory subjects.

At present Reading, Writing, Arithmetic, and Spelling, are compulsory subjects for all the classes; Grammar and Geography for the third and higher classes; Needlework for girls in the second and higher classes, and Agriculture for boys in rural schools in the fourth and higher classes.

For various reasons, an increase in the length of the school day is scarcely practicable, and, therefore, in order to make time for the introduction of Manual and Practical Instruction, a modification of the present school programme becomes necessary. The evidence which we have received from English experts shows that such a modification can be effected without injury to the educational interests of the pupils.

Some of our recommendations will make but little extra demand upon the time of the school. In schools in which Agriculture is at present taught, the time hitherto given to that subject will be available for the teaching of it in its new form. Again, our recommendations as regards Needlework imply a reduction of about two hours a week of the time now allotted to that branch. This time will be sufficient for the teaching of Domestic Science.

Recommendations.

For the introduction of other subjects which we recommend, time must be found. The time thus required, which we estimate at not more than three or four hours a week, might be saved (1) by making some subjects, such as Grammar and Geography, optional in some of the classes in which they are now compulsory; (2) by grouping together subjects which are naturally related, instead of assigning to each a separate fragment of time in the time table; (3) by reducing the requirements of the programme in Grammar, Geography, and Arithmetic.

With regard to this last suggestion, we have received a great deal of evidence that tends to show that Grammar and Geography are at present taught with much greater

minuteness of detail than is necessary or desirable in primary schools,¹ and we are strongly of opinion that, if some of this unnecessary detail were omitted, the amount of time devoted to these subjects might be safely reduced. We have had evidence also, that the course in Arithmetic contains many things that are of little practical use,² and we recommend that it be somewhat abridged by the omission of some of the higher rules. At the same time we recommend that the teaching be made more useful by increased attention being paid to mental arithmetic, and by the introduction of practical exercises involving measurement of length, area, and volume.

It should be borne in mind that the time taken for practical subjects will not be entirely lost to the literary subjects, as in many cases, practical instruction implies a certain amount of literary teaching.

We also feel satisfied that the introduction of the subjects of practical instruction into the present curriculum will result in such a general training of the mental as well as of the physical powers of the pupils, that the instruction in the extra subjects at present included in the programme of the Board of National Education, will be rendered far more effective. Finally, we are of opinion that as a further result of the changes we have recommended, children, when they have left school, will be in a far better position for self instruction and improvement than they could be under the present system.

II.—CHANGES IN THE METHODS OF EXAMINATION AND INSPECTION OF NATIONAL SCHOOLS.

Section II.

At the outset of our Inquiry we received important evidence³ that the introduction of subjects of manual and practical instruction would necessarily involve a substantial change in the present method of testing the instruction given in the schools. It is therefore necessary to describe briefly the system of examination and inspection of primary schools, which prevails at present in Ireland.

National Schools are examined for Results fees once a year, but incidental visits are made whenever the Inspectors can find time and opportunity. On account of the amount of time taken up by the examinations for Results fees, these incidental visits are necessarily rare. The Results Examination consists in the testing of the pupils in all the subjects taught in the school: and from their answering the efficiency of the school is mainly judged. The pupils who have not made 100 attendances are not examined, and, so far as they are concerned, there is no definite test of the value of the instruction they receive, except that which may be applied by the Inspector when making an incidental visit. Fees are paid to the teacher for each pupil passed at the Results Examination, the amount payable being assessed by a necessarily laborious process in the Education Office, on the basis of the returns furnished by the Inspectors.

Present method of testing instruction in Ireland.

The Results Fees system, under which a considerable amount of the teacher's income is dependent on the individual answering of the pupils, was introduced into Ireland in 1871-2. It had been in operation in England for ten years previously.

In England, the examination of the pupils for the purpose of assessing the grant was at first confined to Reading, Writing, and Arithmetic, but this was found unsatisfactory in practice, inasmuch as the range of work tended to become more and more restricted to these subjects alone. Consequently in 1867 a small payment not depending on the number of passes, was made to those schools in which subjects other than the "three Rs" were taught in the higher classes. In 1875 these extra subjects were differentiated into "Class" and "Specific" subjects. The former were subjects such as Grammar, Geography, History, which admitted of being taught according to a graduated programme, in all the classes of the school. Payment for these subjects was not made on the basis of individual passes, but according to the proficiency of the

In England.

¹ Evid. vol. i., A. Handlen, 384-6; Turner, 585-6, 684-6. Evid. vol. iii., Mrs. Peter Lohr, 10944-6; Holland, 12194-306, 13380-2; Neales, 13228-9, 13288; Dynes, 13774. Evid. vol. iv., Skiffington, 14562; Burke, 15055-6; Pender, 15141; T. J. Alexander, 15136; Miss Spring Rice, 15784; Bateman, 15803-9; W. B. Joyce, 16139, 16147-51; Bradshaw, 16417; Most Rev. Dr. O'Dwyer, 16418; Walsby, 17597; Kelly, 17743; Cryan, 18165; Sweeney, 18329; Ward, 19072; Magill, 19548; Busby, 19670-1; Pellow, 20286; Beatty, 20338-40; Rowan, 21123.

² Evid. vol. iii., George Perry, 12701-3; Neales, 13233-9; Hodson, 13590-1; W. A. Brown, 15700-2. Evid. vol. iv., Burke, 15065; Denackey, 15433-8; Gamble, 15636; Miss Spring Rice, 15753; Bateman, 15949, 15970; W. B. Joyce, 16142-4, 16243-3; Bradshaw, 16419; Most Rev. Dr. O'Dwyer, 16416; Drilane, 16840-1; Kelly, 17763-4; Cryan, 17948, 18049; Sweeney, 18336; Busby, 19673; Rowan, 21128.

³ Evid. vol. i., Strange, 895-903.

Part III.
Section II.

class as a whole. Specific subjects were more advanced subjects, such as Mathematics, Languages, Domestic Economy, taken, as a rule, not by whole classes, but by selected pupils in the highest classes. Payment for these subjects was made on the result of individual examination. In 1882 the number of obligatory subjects was increased, and while individual examination in the "three R's" was still insisted on, a Merit Grant was also provided for, to be paid according to the condition of a school or class as a whole, the special difficulties of the teacher, owing to local circumstances, &c., being taken into consideration. In 1890, this system was superseded, and "Class" examination or examination by sample was, except in the case of specific subjects, made the test of school work. Since 1895, in schools which have maintained for a sufficient time a standard of work "well above the level of inefficiency," examination of the pupils has largely been replaced by inspection of the teaching. In other cases a "sample" or "class" examination may still be held if the Inspector is not satisfied with the state of the school after a formal inspection.

In Scotland.

In Scotland the mode of examination as a basis for payment of grants has undergone a very similar modification. In that country, payment by results, even in the case of the "three R's," was not introduced till 1873, and from the very first, certain other subjects, viz., those referred to above as class subjects, were paid for according to the success of the class as a whole. As early as 1886, class examination was applied to the "three R's" also, but in the case of children in classes under VI. only. In 1890, individual examination in the "three R's" was abolished in all the classes, except for the purpose of granting labour certificates. In the Scotch Code of the present year, changes have been introduced which are intended to have the effect of combining inspection of methods in the classes generally, at visits without notice throughout the year, with an individual examination of pupils in or beyond Standard VI., towards the end of the school year. On this examination, merit certificates will be awarded which shall attest individual proficiency in the whole range of a primary school. It should be explained that no Results fee attaches to these individual examinations, though their collective result may be an element in determining the rate of grant to be paid to a school.

Recommendation.

The Results Fees system when introduced into Ireland undoubtedly had beneficial effects on the general character of the work then done in the National Schools. But evidence has been given to us of the benefits that have resulted from the successive changes made in the English and Scotch Educational Systems,¹ whereby the system of individual examination has been gradually replaced by one of inspection; and whilst the scope of our Commission seems to prevent us from expressing an opinion upon the general question as to whether a similar modification might not with advantage be made in Ireland, we consider that as regards the practical subjects of which we recommend the introduction, such a change is absolutely essential. To secure the best effects from Manual and Practical Instruction, the Inspectors should be at liberty to test the progress of the pupils by more flexible methods than can be applied under a rigid system of individual examination. Time should be available for frequent incidental visits. Experience has shown that, even in reference to the present subjects of the programme, this cannot be obtained so long as the existing system is maintained.

Section III.

III.—CHANGES IN THE TRAINING COLLEGE COURSES

In order that subjects of manual and practical instruction should be efficiently taught in the National schools, it is clearly of the utmost importance that the students in the Training Colleges should be carefully trained in the best methods of teaching these subjects.

There are at present five Training Colleges in operation in Ireland in connection with the National Education Board, and licences have been granted for the establishment of two other Colleges.

There are two courses of instruction in each Training College—a one-year's course for teachers already classed and in charge of schools, and a two-years' course for other candidates, who have not charge of schools. All the students are called Queen's Scholars.

Each Training College has attached to it one or more Practising Schools, in which the teachers practise the art of teaching under competent supervision, and acquire a practical knowledge of school organization and method.

¹ Enid vol. II, *Magnum*, 4203-4; *Reaper*, 5034-31; *De Port*, 5459-2; *Practical Grammar*, 6287, 6316-20. Enid vol. IV, *Stenpal*, 32597-2, 32619-26, 32667-72.

The course of instruction embraces the following compulsory and optional subjects:—

COMPULSORY SUBJECTS.

OPTIONAL SUBJECTS.

Part III.
Section III.
—
Course of
Instruction

For Men.	For Women.	For Men and Women.
Reading. Penmanship. Spelling and Punctuation. English Grammar. English Composition. Geography. English Literature. Arithmetic. Bookkeeping. Theory of Method. Practice of Teaching. Drawing. Algebra. Geometry. Mensuration. Agriculture. and either (a) Manual Training, or (b) One of the other Optional Subjects of the Programme.	Reading. Penmanship. Spelling and Punctuation. English Grammar. English Composition. Geography. English Literature. Arithmetic. Bookkeeping. Theory of Method (including Kindergarten.) Practice of Teaching. Drawing. Needlework. and either (a) One of the following Sub- jects:— Algebra. Geometry. Mensuration. Agriculture, or (b) One of the other Optional Subjects of the Programme.	Vocal Music. Latin. French. Irish. History of Great Britain and of Ireland. Trigonometry. Domestic Economy and Hygiene. Practical Cookery. Elementary Mechanics of Solids and Fluids. Magnetism and Electricity. Inorganic Chemistry. Botany. Sound, Light and Heat. Physiography.

To pass the examination, a Queen's Scholar must obtain 50 per cent of the gross total of marks allotted to the prescribed subjects, and 20 per cent of the marks assigned to each of them.

With a view to the introduction of Manual and Practical Instruction into the schools, we consider that with the least possible delay the obligatory course in the Training Colleges should be extended so as to include:—

For Men.	For Women.
Hand and Eye Training, and Woodwork. Elementary Science. Vocal Music.	Hand and Eye Training. Elementary Science. Cookery and Laundry Work. Vocal Music.

In the teaching of Method, the educational considerations which should regulate the mode of teaching the various subjects of practical instruction in National Schools should be fully dealt with, special attention being paid to the principles of the Kindergarten system in reference to the work of both male and female teachers.

In order to give the Queen's Scholars a full course of instruction in methods of teaching we think it most desirable that every subject which is to be taught in any of the Training Colleges should also be taught in the Practising Schools attached to it.

It is evident that the introduction of these new subjects into the course will render necessary substantial modifications in the existing programme for the Training Colleges. We feel that it is no part of our function to indicate in detail how these modifications should be carried out; this must necessarily devolve upon the Board of National Education, but the following are some of the ways in which it may be effected:—

1. By reducing, in some measure, the requirements of the programme in reference to certain subjects.
2. By reducing the number of subjects, failure in any one of which entails loss of the examination by the Candidate.
3. By reducing the number of compulsory subjects for students who have shown sufficient proficiency in these subjects at the entrance examination.
4. By modifying the character of the examination, so as to test rather the capacity of the Queen's Scholars for the work of teaching, than their mere knowledge of the various subjects of examination.

Part III.
Section IV

IV.—PROVISION FOR THE SPECIAL TRAINING OF TEACHERS IN CHARGE OF SCHOOLS.

The modification of the Programme of the Training Colleges will not of itself meet all the requirements of the case if Manual and Practical Instruction is to be effectively introduced into the school curriculum within a reasonable time.

Untrained
teachers.

At the end of 1896 there were 12,000 Principal and Assistant Teachers employed in National Schools, and of these 6,619 or 55·2 per cent were untrained. Owing to age or other causes, a large number of these untrained teachers will never be able to enter a Training College, and many of them that could avail themselves of the advantages of a course of training will find it impossible to secure admission owing to the keen competition for places and the limited accommodation in these institutions.

Existing
provision
for training
teachers.

In the existing Colleges there are places for 865 students, and when the two new Training Colleges are opened, there will be places for 1,920. But only a small proportion of these places is filled by teachers in charge of schools. The majority of students in Training Colleges are young persons who have not yet held appointments as Principal or Assistant Teachers.

The reduction in the total number of untrained teachers must, therefore, of necessity, be a slow process, as it depends on the number of Queen's Scholars annually trained, whether (a) teachers already in charge of schools, or (b) other Queen's Scholars appointed to vacancies previously filled by untrained teachers.

During the three years ended 31st December, 1896, there were 1,605 vacancies in schools, or an average of 535 a year; but there were only 772 trained Queen's Scholars, or an average of 257 a year, available to fill them.

No doubt with the opening of the two new Colleges already alluded to, the number of teachers trained annually will be increased, and ultimately the supply of such teachers to fill vacancies will be less inadequate than it is at present. But for many years to come there must still remain a great number of untrained teachers in charge of schools. Moreover, a considerable percentage of the teachers already trained will require a special course before they can undertake to teach the subjects of Manual and Practical Instruction dealt with in this Report.

Recommendations.

Some provision must therefore be made for the special and speedy training of teachers. Several important suggestions have been made by witnesses¹ as to the best means of effecting this object. Of these the following seem to us the most suitable:—

1. That teachers should attend short courses at the Training Colleges or elsewhere.

2. That classes should be established in the various localities throughout Ireland, at which, on Saturdays, teachers wishing to be instructed in the methods of teaching these special subjects, might be able to attend: the instructors of such classes might be employed, during the other days of the week, as peripatetic teachers or organizers, whose duties would be to visit the schools, to give practical demonstrations, and to advise the ordinary teachers as to the subjects to be introduced, and the best methods of teaching them.

The circumstances of particular cases must determine which of these courses ought to be adopted. Whichever it may be, arrangements should be made, as is at present the case with teachers coming up for a course of Agricultural instruction at the Albert Institution, Glasnevin, enabling the teachers to have the benefit of this special training free of expense. Special grants should also be made to defray the cost of this training, whether given in the Training Colleges or elsewhere.

Section V.

V.—PROVISION FOR THE ASSOCIATION OF SCHOOLS AND OF SCHOOL MANAGERS.

We have been much impressed by the evidence we have received as to the important advantages that may accrue from the association of schools for educational purposes, especially in reference to subjects of manual and practical instruction.

The
"Centre"
system.

In most of the places which we visited in England we found that instruction in Wood-work and Domestic Science was conducted on the system known as the "Centre" system. A room and suitable equipment, together with a special teacher, were provided in a Centre for the use of a number of neighbouring schools. This room was in constant use all the week round, both in the morning and afternoon. Drafts of

¹ Evid., vol. ii., *Basis*, 3243; *Mogues*, 4277-81; *De Port*, 3483; *John Cooke*, 5849-74; *Vaughan*, 6033; *Flack*, 6706-13; *Hudson*, 6785-9; *Hugh Gordon*, 7479; *Pearson*, 8131-3; *Courtenay Hodgson*, 8661; *Slater*, 8891-6; *Emmegrudge*, 16135. Evid., vol. iii., *Arnold Green*, 10589; *Reichelt*, 11209; *Brewan*, 11812-21; 11845-8, 11884-8, Appendix A XXXI, *Hudson*, 13617. Evid., vol. iv., *Burke*, 15034, 15068-8; *T. J. Alexander*, 15185-7; *Donohy*, 13416-8; *Bateman*, 15981-2; *Lothy*, 16882-92; *Blair*, 22718-23; *Tegnan*, 23287-8; *Doherty*, 24614; *Peyton*, 24742-7; *Trilahan*, 25088; *Johnson*, 25254.

children from the schools thus associated had the use of the room and appliances in turn, and each draft received instruction from the special teacher.

There is another system also which we found in operation in Liverpool, in which city peripatetic Science Instructors were provided for groups of schools. These instructors visited each school in turn, bringing with them a supply of suitable apparatus for their demonstrations. In the intervals between the visits of the peripatetic teachers, the ordinary teachers went over the work by way of repetition, and thus practically the continuity of the instruction was maintained.¹

These systems, in addition to their other manifest advantages, have the great merit of economy, the money provided for education being much more effectively applied than if expended separately on the various schools.

We are of opinion that the "Centro" system could be carried out without much difficulty in the large towns in Ireland for instruction in Woodwork, Elementary Science, Cookery, and Laundry work. In the rural districts these subjects will have to be taught in the schools; and if the ordinary teachers are not competent to give the instruction, the peripatetic system might advantageously be adopted.

We are strongly convinced of the advantage of having associations of managers formed in Ireland for the development of Manual and Practical Instruction, in accordance with one or both of the plans outlined. These associations would be also most useful for the purpose of suggesting changes in the school programme, suitable to particular localities, of promoting healthy rivalry between different schools, and of arousing local interest in educational matters generally.

VI.—CHANGES IN REGARD TO EVENING SCHOOLS.

The importance of Evening Schools, in connection with subjects of manual and practical instruction, is everywhere admitted.

Evening Schools are recognised in Ireland in connection with Model, Convent, Monastery, and Ordinary Day National Schools, or as separate and independent National Schools. The Commissioners grant salaries and Results fees to the teachers of these schools. In the case of Convent and Monastery Schools the salary is a Capitation Grant at the rate of only £10 per annum for every 100 pupils in average attendance—or at the rate of 2s. per annum for each pupil. As Evening Schools are open for only six months as a rule, the Capitation Grant is really only 1s. per head for six months' instruction. In the case of Ordinary National Schools the salary is at the somewhat higher, but still quite inadequate, rate of £1 per month for every month during which the school has been open with an average monthly attendance of not less than twenty-five *bona fide* Evening School pupils (that is, pupils who do not attend any Day School). This represents a maximum payment of nearly 5s. per head for each pupil in average attendance for six months' instruction. The teachers of Model Evening Schools are paid at rates somewhat higher than these.

Results fees are granted to all Evening Schools, but subject to the following restrictions:—

- (a.) Of the ordinary branches, only Reading, Spelling, Writing, Arithmetic, and Book-keeping may be paid for.
- (b.) Only two Extra Branches can be taught and paid for.
- (c.) If Extra Branches are paid for, no payment can be made for ordinary subjects for the same pupils.
- (d.) Music and Needlework cannot be paid for—but "Sewing Machine and Dressmaking" may constitute an Extra in Girls Evening Schools.
- (e.) No day school pupil may be presented for examination in an Evening School.
- (f.) If the pupils have been examined twice in Sixth Class, only Extra Subjects can be paid for.
- (g.) Every pupil presented for examination must have made at least fifty attendances.

As might be expected, in view of the small remuneration to the teachers of Evening Schools by way of salaries or Capitation Grants, and the restriction on the earning of Results fees, we find that the number of Evening Schools has been decreasing from year to year, and that on the 31st December, 1896, there were only 35 such

¹ Evid., vol. II., *Quilten*, 4826-900; *Bance*, 7201; *Lowas*, 8162-53.

² Evid., vol. II., *Most Rev. Dr. O'Dwyer*, 16582; *Lally*, 17056-7; *Monsignor Byrne*, 18319-24; *Magill*, 19564; *McMannan*, 21664-9.

Part III.
Section VI.In England
and
Scotland.

schools in operation in the whole of Ireland, and that the average attendance was only 1,147. This is a very striking and unsatisfactory condition of things, when compared with England, where the average attendance at Evening Schools during the same year was 147,023, or Scotland, where the average attendance was 50,823.

In England and Scotland, Evening Schools are encouraged by the State as much as possible, and local effort is enlisted on their behalf by regulations calculated to make such schools attractive and suitable to the requirements of each locality. All needless restrictions are removed, the programmes are wide and elastic, and the method of assessing the grants is simple.

In both those countries, subject to slight modifications, grants may be made for any of the following subjects of instruction, or for any other subjects that may be sanctioned by the Education Department, provided a graduated scheme for teaching any such subject be submitted to the Inspector and approved by him:—

Elementary Subjects (Reading, &c.)
English Subjects (English, Geography, History, &c.)
Languages.
Mathematics.
Science Subjects.
Subjects of Practical Utility (Book-keeping, Short-hand, &c.)
Subjects for Boys and Men only (Agriculture, Navigation, &c.)

Subjects for Girls and Women only (Domestic Economy, Needlework, Cookery, Laundry, &c.)
Drawing.
Manual or Technical Instruction.
Suitable Physical Exercises.
Military Drill (Boys and Men).
Vocal Music.

The annual grant is paid according to the total number of hours' instruction given to each pupil who has given at least twelve hours' attendance. There is no formal examination of the schools—but they are regularly inspected.

Objects of
Evening
Schools.

One object of Evening Schools is to supply defects in the elementary instruction of pupils. In spite of all efforts to the contrary, there must necessarily be a large number of pupils who are unable to spend sufficient time at the ordinary Day Schools, to acquire reasonable proficiency in the elementary subjects. This is especially the case in Ireland, where the compulsory clauses of the Education Act of 1892, have, for various reasons, been put in force in but few places.

Again, these Schools enable pupils who have passed through the ordinary Day Schools to acquire something more than elementary knowledge, and give them opportunities of learning the scientific principles which underlie the employment on which they have entered. As stated by the late Sir Patrick Keenan at the Social Science Congress in 1881, it should be kept in mind that "it is precisely when the rudimentary education ends at thirteen or fourteen, that some effort should be made to induce youths to cultivate themselves, to become readers and students, to observe the phenomena of nature, and to recognise the application of science to their trades and callings."

Evening Schools would in many cases be particularly suitable for manual and practical instruction. Such subjects would undoubtedly render the school attractive. We found in Dundee, for example, that manual instruction in Evening Schools is so popular that it serves as an inducement for pupils to attend the literary classes, no pupil being allowed to attend the manual classes, who does not attend literary instruction as well.

Recom-
mendations.

We are of opinion that the present restrictions upon the payment of grants for pupils attending Evening Schools in Ireland, which so much hamper their operation, should be removed.

We also recommend that the number of subjects which may be taught should be largely increased. Managers of schools should be at liberty to suggest, for the approval of the Board of National Education, any subjects that they consider specially adapted to the circumstances of the locality.

We consider that the system of individual examination is entirely unsuitable in Evening Schools, and that the payments of all the grants should depend (a) on the attendance, and (b) on the efficiency of the school as reported on by the Inspector.

We are also of opinion that the remuneration of the teachers of Evening Schools in Ireland is entirely inadequate, and that it should be increased to such an extent as would fairly reward the teachers for their labours, and obviate the necessity of requiring school fees from the pupils to supplement their incomes.

¹ *Ibid.*, vol. 1c., *Loc.*, 23827-749; *MS.*, 23750-66; *R. Coll.*, 23923.

In presenting this Report to your Excellency, we venture to express our conviction that, if our recommendations be adopted, the system of education carried out in the primary schools of Ireland can be made, within a few years, very thorough and complete. At present, no doubt, it is excellent in some respects; but in other respects it seems to us seriously deficient. Insisting too much, as it does, on the study of books, it leaves the faculty of observation and other important faculties comparatively uncultivated; and it neglects almost entirely that training of the hand and eye which would be so useful to the children in their after life, and which is now regarded, both in England and on the Continent of Europe, as an element of great importance in primary education.

The development of Manual and Practical Instruction, on the lines we have pointed out, will remedy these defects, and will not, we are satisfied, inflict any injury on the literary education which is now given. It will not disturb what is good in the present system, but only supply what is wanting. It will quicken the intelligence of the children, brighten the tone of school life, and make school-work generally more interesting and attractive. With the system of National Education modified as we propose, the children will be taught not by means of books only, but also by the more simple and effective agency of things; they will be trained in the skilful use of all their faculties; and they will be better prepared for their work in life, which, for the great bulk of them, must consist mainly of manual occupations.

It is hardly necessary to say that the changes we have recommended cannot be carried out without a considerable expenditure of money. But we feel confident that the State, which so largely maintains and controls the system of National Education in Ireland, will not hesitate to provide the necessary funds for improving that system, within reasonable limits. The progress of the people in wealth and material prosperity must largely depend on the education given in the primary schools; and to make that education thoroughly efficient and fit for its purpose is a task, we submit, which may well be undertaken, in the highest interests of the State, whatever the necessary cost may be.

At an early period in the progress of our Inquiry, we had the misfortune to lose by death one of our most valued colleagues, His Grace the Most Reverend Lord Plunket, late Archbishop of Dublin. The great desire of His Grace for the advancement of education in Ireland, and his acquaintance with the educational needs of the country, fitted him in an especial manner to take part in the work entrusted to us; and we feel it our duty to place on record our deep sense of the loss we sustained by his death.

The Earl of Belmore, Chairman of the Commission, attended our meetings most assiduously during the whole progress of our Inquiry, guiding our proceedings and taking part in our discussions. He was also present at meetings in December, January, and February last, when the substance and general outline of this Report were unanimously agreed to. After these meetings, we regret to say, he became seriously indisposed, and has not since been allowed by his doctors to transact any business in connection with the Commission.

We desire, in conclusion, to bear testimony to the zeal and efficiency of our Secretary, Mr. J. D. Daly, in the discharge of his duties. To his intelligence, his diligence, and his courteous manner, we are indebted for much valuable assistance, both in the holding of our Inquiry and in the preparation of our Report.

All which we humbly submit for your Excellency's consideration.

Signed this 25th day of June, 1898.

† WILLIAM J. WALSH,
Archbishop of Dublin.

G. PALLES.
C. T. REDINGTON.
JAMES J. SHAW.
GERALD MOLLOY.
HENRY EVANS.
H. B. WILSON.
GEO. FRAS. FITZGERALD.
STANLEY HARRINGTON.
WILLIAM ROBERT J. MOLLOY.
T. B. SHAW.
J. STRUTHERS.

JAMES DERMOT DALY,
Secretary.

ALPHABETICAL LIST OF WITNESSES WHO GAVE EVIDENCE BEFORE THE COMMISSION.

NAME.	DESCRIPTION.	Vol. and Page of Report of Evidence.
AITKEN, JOHN M., F.R.S.E.,	Member of the Education Committee of the Darnleyshire County Council.	IV., 331, 261
ALEXANDER, G. W., M.A.,	Clerk to the Glasgow School Board,	IV., 313
ALEXANDER, T. J., LL.D.,	Head Inspector of National Schools,	IV., 41
ALEXANDER, ARTHUR, F.R.S.,	Assistant to the Professor of Agriculture, Yorkshire College, Leeds.	III., 1
ANDREWS, MISS A.,	Laundry Work Instructions to the Barrow-in-Furness School Board,	II., 269
ARMSTRONG, HENRY E.,	Professor of Chemistry, City and Guilds of London Institute,	II., 26
BAINBRIDGE, S.,	Head Master, Model School, Carrickfergus,	IV., 232
BAINBRIDGE, W. F., F.R.S.E.,	Professor of Physics, Royal College of Science, Dublin,	IV., 420
BARTLEY, RICHARD, J.P.,	Vice-President of the Governors of the Munster Dairy School,	IV., 35
BARTLEY, SOLOMON,	Organizer of Manual Instruction to the School Board for London,	II., 69
BATMAN, G., LL.D.,	District Inspector of National Schools,	IV., 68
BATMAN, JAMES,	Organizing Secretary to the Westmeath County Council,	II., 242
BEANLAND, LUDLOW A.,	Hon. Secretary to the Governors of the Munster Dairy School,	IV., 25
BEANLAND, RICHARD H.,	One of the Governors of the Munster Dairy School,	IV., 28
BEATTY, H. M., LL.D.,	District Inspector of National Schools,	IV., 215
BENNETT, ARTHUR E.,	One of Her Majesty's Inspectors of Schools in England,	II., 234, 259
BEVIS, A. W.,	Director of Manual Training to the Birmingham School Board,	II., 1
BLAIR, ROBERT, M.A., F.R.S.,	Inspector of Schools under the Science and Art Department,	IV., 295
BOTT, A. T., M.A.,	Senior Inspector of Schools to the Liverpool School Board,	II., 173
BRADSHAW, J. R.,	National Teacher, Cappamore National School, County Limerick,	IV., 83
BRANDER, MISS MARGARET,	Misses of the Infant Department, South Bridge School, Edinburgh,	IV., 283
BRENNAN, JAMES, LL.B., M.R.I.A.,	Head Master, Dublin Metropolitan School of Art,	III., 40
BROWN, ROBERT,	National Teacher, Ballymacarrett National School, Belfast,	IV., 162
BROWN, W. A., D.A.,	District Inspector of National Schools,	III., 136
BROWN, W. J., M.A.,	District Inspector of National Schools,	IV., 225
BUCKMASTER, C. A., M.A.,	Senior Inspector of Schools under the Science and Art Department,	II., 99
BURKE, COLONEL YSTE, D.L.,	Deputy Lieutenant, Co. Tyrone,	IV., 193
BURKE, Rev. Brother,	Superior, Christian Brothers' Schools, North Monastery, Cork,	IV., 32
BURKE, WM., F.R.S.,	Agricultural Instructor to the Trustees of the Limerick Endowment for Technical Education,	IV., 80
BURKE, Rev. S. F., LL.D.,	Rector of St. Andrew's, Belfast,	IV., 191
BYRNE, JAMES,	One of the Governors of the Munster Dairy School,	IV., 31
BYRNE, Rt. Rev. Monsignor, F.F., V.O.,	Manager of Schools, Parish Priest of Dunganstown,	IV., 177
CALDER, MISS FANNY,	Hon. Secretary of the Liverpool Technical College for Women,	II., 163
CALDER, ROBERT,	One of Her Majesty's Inspectors of Schools in Scotland,	IV., 339
CAMPBELL, Rev. GEORGE, CM.,	Vice-Principal, "St. Patrick's" Training College, Drumcondra,	IV., 360
CAPORN, Rev. JAMES, F.A.,	Presbyterian Minister, Londonderry,	IV., 296
CARROLL, THOMAS, M.R.I.A.,	Agricultural Superintendent, Albert Farm, Glasnevin,	I., 31 III., 80
CHALMERS, JOHN,	Head Master, Burton School, Westmeath,	II., 245
CHANCE, Rev. J. COURTESAY, F.A.,	Presbyterian Minister, Galway,	IV., 117
CHANCE, Rev. E. J.,	Rector of Trinity Church, Belfast,	IV., 231
CHANCE, TERENCE, D.A., LL.D.,	National Teacher, Bray National School, and President, Teachers' Organization,	III., 92
CLEMENTS, W. T.,	Inspectors' Assistant under the Board of National Education,	III., 135
COFFEY, J.,	National Teacher, Ringsend National School, and Central Secretary, Teachers' Organization,	III., 100
COLE, GENTLEMAN, A. J., F.G.S.,	Professor of Geology, Royal College of Science, Dublin,	IV., 419
COLTHURST, Sir GEORGE, Bart.,	Chairman of the Governors of the Munster Dairy School,	IV., 21
COOKE, ENGINEER,	Professor of Drawing, London,	II., 144
COOKE, JOHN,	Hon. Secretary, Lloyd Association for Great Britain and Ireland,	II., 101
COOKE, JOHN, M.A.,	Professor, "Church of Ireland" Training College, Kildare-place, Dublin,	I., 55
ORTAN, T.,	National Teacher, Tynagh National School, Ballaghaderreen,	IV., 133
CUTTINGTON, Sir JOHN NELSON, LL.D.,	Chairman of the Glasgow School Board,	IV., 306

ALPHABETICAL LIST OF WITNESSES—continued.

NAME	Description.	Vol. and Page of Report of Evidence.
DALTON, J. P., M.A.,	District Inspector of National Schools, . . .	IV., 205
DALY, MISS M.,	Professor of Kindergarten, &c., "Our Lady of Mercy" Training College, Dublin, . . .	I., 91
DESSNEY, J.,	National Teacher, Ballsbridge National School, Cork, . . .	IV., 51
DEWAR, E. P., M.A.,	District Inspector of National Schools, . . .	IV., 138
DOOLE, J. R., M.A.,	Member of the School Board for London, . . .	II., 55
DOHERTY, J. J., LL.D.,	Professor and Principal, Training College, Marlborough-street, Dublin, . . .	IV., 350
DOWNING, EDMOND, .	Chief of Inspection under the Board of National Education, . . .	I., 10
DOYLE, M.,	National Teacher, Ballynate National School, Co. Sligo, . . .	IV., 144
DRISLANE, WM.,	National Teacher, Shanagolden National School, Co. Limerick, . . .	IV., 100
DUNCAN, GEORGE F.,	Manual Instructor under the Glasgow School Board, . . .	IV., 323
DUPONT, REV. C. D.,	One of Her Majesty's Chief Inspectors of Schools in England, . . .	II., 90
EADNEY, F.,	Head Inspector of National Schools, . . .	IV., 231
ELMIST, CORNELIUS, .	Chairman of the Manual Instruction Committee, Dundee, . . .	IV., 355
ENRIE, G. B., M.A.,	Head Master, Diocesan School, Waterford, . . .	IV., 13
FERRAN, JAMES, .	Head Master, Model School, Sligo, . . .	IV., 142
FITCH, SIR JOSEPH, LL.D.,	Formerly One of Her Majesty's Chief Inspectors of Training Colleges in England, . . .	II., 128
FITZPATRICK, STEPHEN, .	Professor of Method, "St. Patrick's" Training College, Drumcondra, . . .	IV., 364
FOGHES, WESLEY, .	National Teacher, Tollymore National School, Belfast, . . .	IV., 182
FOY, P. BERTAM, .	Professor of Drawing, "St. Patrick's" Training College, Drumcondra, . . .	I., 94 III., 141
GAMICK, P.,	National Teacher, Trimhast's-lane National School, Cork, . . .	IV., 56
GEMMY, WM. B.,	Treasurer to the Edinburgh School Board, . . .	IV., 282
GILLES, GILBERT, .	Chairman of the Committee on Technical Education of the Westmorland County Council, . . .	II., 235
GILLESPIE, REV. J., LL.D.,	Chairman of the Highland and Agricultural Society, and Member of the Education Committee of the Dumfriesshire County Council, . . .	IV., 256 II., 252
GLADSTONE, J. H., B.Sc., F.R.S.,	Formerly Member of the School Board for London, . . .	IV., 17
GOARNEY, REV. Brother,	Instructor in Woodwork, Christian Brothers' School, Llanero, . . .	III., 68
GOLDIE, JEREMIAH, .	National Teacher, Eambserry National School, . . .	I., 57
GOODMAN, P.,	Examiner in Music to the Board of National Education, . . .	II., 167
GOODSON, HUGH, .	Inspector of Schools under the Science and Art Department, . . .	III., 46
GOODSON, JAMES S., B.Sc.,	Principal, Chester Agricultural and Horticultural School, . . .	IV., 273
GRANHAM, DAVID, .	Chief Instructor in Woodwork under the Edinburgh School Board, . . .	II., 114
GRAVER, ALFRED PERCYVAL, .	One of Her Majesty's Inspectors of Schools in England, . . .	III., 10
GRAVER, ARNOLD F.,	Hon. Secretary Technical Education Association for Ireland, . . .	IV., 272
GRAY, ALEXANDER, .	Member of the Edinburgh School Board, . . .	I., 1 IV., 96 IV., 378 II., 156 172
HAMILTON, ALEXANDER, .	Chief of Inspection under the Board of National Education, . . .	IV., 121
HAMILTON, VEN. Archbishop, .	Archbishop of Limerick, . . .	IV., 425
HAMILTON, REV. J. M., M.A.,	Presbyterian Minister, Dublin, . . .	II., 260
HANCE, EDWARD M.,	Clerk to the Liverpool School Board, . . .	III., 117
HANSON, P. J.,	Organizer to the Irish Agricultural Organization Society, . . .	II., 86
HARTLEY, W. N., F.R.S., F.L.C.,	Professor of Chemistry, Royal College of Science, Dublin, . . .	II., 178
HARRIDGE, ARTHUR, .	Superintendent of Schools to the Barrow-in-Furness School Board, . . .	II., 208
HARRIS, W. P., B.A.,	District Inspector of National Schools, . . .	III., 69
HELLIS, WILLIAM MAYBROW, .	Science Demonstrator under the School Board for London, . . .	II., 123
HENFITT, WILLIAM, B.Sc.,	Director of Technical Instruction to the Liverpool City Council, . . .	IV., 434
HENDERSON, C. COUNTESSAY, .	Organizing Secretary to the Cumberland County Council, . . .	I., 81
HOLLAND, D.,	National Teacher, Borough School, Swords, . . .	IV., 75
HOMAN, MISS, .	Member of the School Board for London, . . .	
HUGHES, J. C.,	Superintendent of Educational Handwork to the Hornsey School Board, London, . . .	
HYNE, J. J., M.A.,	District Inspector of National Schools, . . .	
JOHNSON, T., B.Sc., F.L.S.,	Professor of Botany, Royal College of Science, Dublin, . . .	
JOYCE, P. W., LL.D.,	Late Professor and Principal, Training College, Marlborough-street, Dublin, . . .	
JOYCE, WILLIAM B., B.A.,	Head Master, Lenny's School, Limerick, . . .	

ALPHABETICAL LIST OF WITNESSES—continued.

Name	Description	Vol. and Page of Report of Evidence
KELLY, JOSEPH D.,	National Teacher, Cashel National School, Co. Galway,	IV., 128
KIRBY, MISS A. M.,	Organising Teacher under the Board of National Education,	I., 71
KIRK, JOHN G., M.A.,	Head Master, Allan Glen's School, Glasgow,	IV., 324
LAILEY, REV. P., F.F.,	St. Joseph's, Galway, Hon. Secretary, Galway Technical School,	IV., 104
LANDISER, E.,	National Teacher, Coolnamore National School, Dungarvan,	IV., 15
LAWRENCE, W. T.,	Agricultural Lecturer to the Cumberland County Council,	II., 231
LOMAS, JOSEPH,	Science Instructor to the Liverpool School Board,	II., 194
LORD, MISS,	Organising Superintendent of Laundry Work, &c., under the School Board for London,	II., 125
LOW, SIR JAMES,	Formerly Lord Provost of Dundee, and Member of the Manual Instruction Committee, Dundee,	IV., 330
LYSNEY, Very Rev. Canon, F.F., V.G.,	Manager of Schools. Parish Priest of Offices,	IV., 110
MC CARTHY, MISS M.,	Instructor in Cookery, "Our Lady of Mercy" Training College, Dublin,	III., 139
MAC CREANOR, EDWARD,	Formerly an Inspector of National Schools,	IV., 393
MAC DONALD, BAILE,	Member of the School Board, Dundee,	IV., 335
McKENNA, REV. EDWARD, P.F.,	Manager of School. Parish Priest of Claudy, Londonderry,	IV., 241
MAC LONNAN, THOMAS,	National Teacher, Lapham National School, Boyle,	IV., 156
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- I. Memorandum by the Commissioners of National Education on the subject of Manual Instruction.
- II. Statement by His Grace the Most Rev. Dr. Walsh, on the subject of Manual Training.
- III. Memorandum by Captain Shaw on Manual and Practical Instruction.
- IV. Memorandum by Mr. Struthers on Manual and Practical Instruction.
- V. Memorandum by Mr. M. E. Sadler on Manual Training for Boys in Primary Schools in Foreign Countries.
- VI. Report by Mr. W. B. J. Molloy on a Visit to Harringay and Stood Green Schools, Harnsey, London.
- VII. Report by Mr. W. B. J. Molloy on a Visit to Abbey-street Schools, Bethnal Green, London.
- VIII. Report on a Visit of some of the Commissioners to Westminster Training College, London.
- IX. Documents put in by Mr. Alexander Hamilton, M.A.:—
 - (1.) Subjects of Instruction in Irish National Schools.
 - (2.) Return showing Number and Size of School Farms.
 - (3.) Return showing the operation of the Compulsory Attendance Act.
 - (4.) Revised Programmes of Examination for Admission to Training Colleges.
 - (5.) Programmes of Instruction and Examination in National Schools.
- X. Documents put in by Professor Thomas Carroll, M.B.E.A.:—
 - (1.) Return showing School Farms relinquished.
 - (2.) Prospectus of the Albert Agricultural Institution.
 - (3.) Return showing Number of Pupils who attended the Albert Agricultural Institution from 1881 to 1896.
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 - (5.) Prospectus of the Munster Dairy School.
 - (6.) Return showing Number of Pupils who attended the Munster Dairy School from 1881 to 1896.
 - (7.) Lists of the following Classes of National Schools:—
 - (I.) Agricultural Training Establishments.
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 - (8.) Return showing Number of Pupils examined on School Farms and School Gardens.
 - (9.) Pamphlet on Agricultural Teaching under the Board of National Education.
- XI. Memorandum by Miss Pendergast on the proposed Revision of the "Alternative Scheme."
- XII. Memorandum by Miss A. M. Kenny on the Extension of the Kindergarten system.
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- XIV. Letter by Mr. F. Eardley on *Sloyd* and Kindergarten Occupations.
- XV. Memorandum by Mr. F. Eardley on a former System of Science Teaching under the Board of National Education.
- XVI. Memorandum by Mr. James Peckan on Dr. Clarke's Lectures on Physical Science.
- XVII. Memorandum by Mr. A. W. Bevis on the Cost of Manual Training under the Birmingham School Board.
- XVIII. Documents put in by Mr. W. Mayhew Hollet (School Board for London):—
 - (1.) "Course H" of the Day School Code of the English Education Department.
 - (2.) Syllabus for Elementary Natural Philosophy.
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 (2.) Syllabus of Lessons in Cookery.
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- XXII. Documents put in by Mr. E. M. Hance (Liverpool School Board):—
 (1.) Particulars as to Certificates held by Instructors in Manual Work under the Liverpool School Board.
 (2.) Return showing subsequent Occupations of Students who received Manual Instruction in Liverpool.
 (3.) Return showing site of a Manual Instruction Centre recently created in Liverpool.
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- XXIII. Documents put in by Mr. A. T. Bott (Liverpool School Board):—
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- XXXIX. Document put in by Rev. Brother Gogarty, Instructor in Woodwork, Christian Brothers' Schools, Limerick.—*Course of Manual Instruction in Wood at the Christian Brothers' Schools, Limerick.*
- XI. Document put in by Mr. J. P. Dalton, M.A., District Inspector of National Schools.—*Suggested Programme in Elementary Science for National Schools.*
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- (1) *Scheme of Object Lessons and Elementary Science Teaching for Standards I. to VI.*
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- XLVIII. Document put in by Mr. G. W. Alexander, M.A., Clerk to the School Board of Glasgow.—*Cost of Apparatus for Elementary Science.*
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- L. Document put in by Mr. Stephen Fitzpatrick, Professor of Method, &c., St. Patrick's Training College, Drumcondra.—*Suggested Programme of Examination for Entrance to Training Colleges.*
- L.I. Documents put in by Professor Peyton, M.A., Marlborough-street Training College, Dublin:—
- (1) *Course of Elementary Drawing for Junior Classes.*
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- LIII. Document put in by Messrs. M. S. Seymour (Secretary), Alex. Hamilton, and E. Downing (Chief of Inspection), Office of National Education, Dublin.—Tables showing Distribution of School Time in National Schools.
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- LVI. Resolution on Agricultural Teaching in National Schools [Irish Agricultural Organization Society].
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[A MEMORANDUM ON MANUAL INSTRUCTION in Elementary Schools in Sweden, Russia, and Denmark, is published as an Appendix to the Third Volume of Evidence.]

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- I. Report on Manual Training in Schools in North Germany and Holland, by Mr. A. Parnow, Head Inspector of National Schools.
- II. Report on Manual and Practical Instruction in the Elementary Schools of South Germany and the German-speaking Cantons of Switzerland, by Mr. T. W. Rollinton.
- III. Joint Report on Manual and Practical Instruction in Primary Schools in France, by Mr. A. N. Bonaparte Wyse, M.A., and Mr. E. J. Hughes-Dowling, B.A.
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- V. Report on Manual and Practical Instruction in the Primary Schools of Belgium, by Mr. A. N. Bonaparte Wyse, M.A., Inspector of National Schools.

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10994.

CHIEF SECRETARY'S OFFICE

DUBLIN CASTLE,

29th June, 1898.

Sir,

I am directed by the Lords Justices to acknowledge the receipt of your Letter of the 27th instant, enclosing the final Report of the Commission on Manual and Practical Instruction in Primary Schools under the Board of National Education in Ireland.

I am,

Sir,

Your obedient Servant,

D. HARREL

J. D. DALY, Esq.,

120, Lower Baggot-street,

Dublin.

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PRIMARY SCHOOLS UNDER THE TRAINING OF NATIONAL EDUCATION
IN IRELAND

FINAL REPORT

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THE COMMISSIONERS.

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COMMISSION ON MANUAL AND PRACTICAL INSTRUCTION.

MINUTES OF EVIDENCE.

THIRTY-SECOND PUBLIC SITTING—WEDNESDAY, SEPTEMBER 29TH, 1897,

Waterford.
Sept. 29, 1897.

AT 2 O'CLOCK P.M.,

At the Imperial Hotel, Waterford.

Present—The Right Hon. THE EARL OF BELMONT, G.C.M.G., in the Chair, The Right Hon. C. T. REDNUTON, M.A.; Rev. HENRY EVANS, D.D., Rev. HAMILTON WILSON, D.D., W. R. J. MOLLOY, Esq., and Captain T. B. SHAW;

with J. D. DALT, Esq., M.A., Secretary.

Rev. Brother THOMAS, M.A., Principal of De La Salle Training College, Waterford, examined.

Rev. Brother
THOMAS, M.A.

14259 CHAIRMAN.—I believe you are the Principal of the De La Salle Training College, Waterford?—Yes.

14260. Will you kindly tell the Commission what are the subjects of instruction in the Training College, particularly as bearing upon the matter of our inquiry?—The principal subject bearing on the matter of the inquiry is drawing; this we make obligatory on all the students; every student must take up the course of drawing presented in the College.

14261. Perhaps you would tell us, as you come to the different heads, in your own words, anything that may occur to you that is likely to be useful to us?—The subject of drawing we make compulsory on all the teachers, because of its great utility in the schools. We consider, from experience of different countries, that a great deal of the prosperity of the people in the arts depends on the training they get in elementary drawing. We make it compulsory—we are most anxious to try and bring it into all the schools. Of course it is principally the ordinary freehand-drawing, and, for the sake of the teachers, we have what they call "blackboard drawing," by which the teachers are trained to draw on the blackboard a design which they wish to exhibit to their classes.

14262. Have you been able to follow teachers after they have left you and gone back to their schools, and ascertain whether they have been successful or

otherwise in the teaching of drawing?—To some extent, yes; and we have found that the subject of drawing is now much more sought for by managers of schools. It is a great additional help to a teacher to get a school, and as a rule it is taught with success.

14263. Do you think the children take an interest in drawing?—If it is well taught, they will, but as it has been principally taught in the National schools, simply placing a model before the boys, and compelling them to copy that, without any help or any lesson to explain how they were to go about it—that kind of drawing they never take an interest in. If drawing is well taught, they always take an interest in it; some of course more than others, on account of natural aptitude and taste.

14264. Have you in your own mind any instances where teachers who have qualified for teaching drawing, owing to circumstances, have not taught drawing, and therefore their knowledge has remained useless for a number of years, say, fifteen or twenty years?—No particular cases; but I know there are some schools in which some of our own teachers have been qualified for drawing, but for some reason or other the manager does not care about introducing it.

14265. In a case of that sort, would you think that a teacher who had let his talent lie dormant for fifteen or twenty years, would be able to take the thing up again in case circumstances, either a change

Witnessed
and signed
Sept. 19, 1907.
Rev. Brother
Thomas, M.A.

of school or some other reason, made it necessary for him to teach drawing!—I think so. I think it does not militate against him.

14266. You think not having practised the teaching of drawing would not militate against him?—His hand may have been out of practice a little, but nothing to signify.

14267. Coming to the subject of agriculture, what would you say to that?—Well, as far as my knowledge of the teaching of agriculture goes in the schools, I consider it a great failure, a very great failure.

14268. Why?—Because, ordinarily speaking, it is taught simply by memorising the text book for the sake of results fees, and there is no intelligent work, ordinarily, the teachers are not inclined in the way of agriculture.

14269. I understand that there are only a very limited number of school gardens or school plots in this part of the country?—Very few, very limited.

14270. Do you think that if there were some small plots of a rod or half an acre attached to every school it would be an advantage—I mean for the purpose of the children being taught the principles of gardening or of agriculture?—I am afraid it would not be of general advantage, because the teachers, generally, I think, have not a taste for that. I think if teachers had a taste, generally speaking, for agriculture, they would not have become teachers at all.

14271. Do you think that if it were made worth a teacher's while to take this subject as an extra subject, and he were to receive in some way a grant in the same way as the Science and Art Department gives grants for certain subjects, that would encourage him to learn the subject?—It would encourage and assist, but what I fear is that it would not give the teachers sufficient natural taste for agriculture, which is so necessary to infuse the same thing into the pupils.

14272. Then you have no means in connection with primary education in Ireland that you could suggest by which, not the trade of agriculture, but what you might call the principles of agriculture, could be taught in a practical way, in addition to learning it out of books?—I would be inclined to suggest and recommend that those principles which you speak of should be taught in the primary schools, not as agriculture, but as the elementary principles of the natural and physical sciences. I consider that this is a way in which the teachers would all, generally, have a decided taste for it, and the boys would take to it very well. Take the case of two boys, say of fourteen years of age each, both sons of farmers, and who, as such, have worked more or less on the farms at different times, and will work after they leave school, but one of them has learned farming in the school from the text book, as is done at present, and the other has not; but instead of that, he has learned some of the fundamental principles, a little bit of agricultural chemistry, the principles of botany, how plants grow, and what they require for their food, and some principles regarding zoology and other natural and physical sciences. That boy, when he goes into the farm under his father, after leaving the National school, will be far ahead, as a farmer, of the other; he will have an intelligent conception of how to carry on the farming business.

14273. Do you think he would be able to apply what he had learned in the school in that way, in a practical manner on the farm, without having had any school instruction in the shape of work upon school gardens or plots?—I think he would, because he has enough of practical work at home. Of course, for a regular agricultural system, thoroughly sci-

tifically carried out—you cannot do without an agricultural school, which is beyond the National school, and for which there are only a few pupils.

14274. Have you had any experience in the subject of kindergarten and hand and eye training?—Not except through teachers. Wherever it is well practised, it is certainly a most successful and most useful for little children in the school; and in all the schools that we can exercise any influence over we require kindergartens, in some modification or other, to be carried out through all the classes.

14275. You don't approve of the plan, which seems very general in Ireland, of their teaching it to the infants, and then discontinuing it for a year or two, and taking up something of the same sort again afterwards?—No, I do not, but what I refer to by carrying on kindergartens in some form or another, is the giving of object lessons—on some of the natural and physical sciences—carrying them up through the classes, and of course, manual instruction and training of the eye and hand, drawing—all that is the principle of kindergarten carried on. We oblige our teachers, when they go to any of the training schools, to give object lessons, as as to try and bring this system into the schools.

14276. Have you considered the question of manual work in wood?—I have considered the question since it was raised, but I don't exactly see how it can be carried on, under the present conditions of schools, without a decided modification, and without some provision being made for the necessary expense, but if it can be done it certainly attaches a great interest to the school.

14277. With regard to experimental science, what are your views on that subject?—Very much what I have said, that every elementary school ought, if possible, to have a little course of natural and experimental science as a foundation for technical instruction—either technical instruction in farming, or technical instruction in any other art.

14278. Would you approve of the children making experiments themselves, as we now do, in some cases, in the English schools?—As far as it can be done, yes.

14279. Because it would be easier to do that in a large town school than in a country school?—Very much easier, of course, a good deal depends on the teacher, but it is very feasible. I have known boys, myself, taking much delight in making up little simple apparatus for chemical experiments with bottles and little things like that, using things that might be thrown away, and yet by their ingenuity they made little apparatus that would be very serviceable for the little experiments wanted.

14280. I see on your memorandum you have the subject of object-lessons: would you explain what you have in your mind by that term?—Well, I will take one illustration—an object-lesson on a plant, teaching them a regular lesson, or a little course of three or four lessons, at the close might be, on the plant; how it grows, how it receives its nourishment; and how it develops; and the same that might be drawn from that particular plant, or that particular class of plants of which this one was a type. And I have shown some of the teachers myself how that could be illustrated with a large seed, a bean for example, showing three stages of development. The first stage, when it germinated; the second stage, when the leaves were thrown out; the third stage, when perhaps it flowered. Here they would have the principle of the growth of nearly all agricultural plants.

14281. That would be something in the way of teaching the principles of agriculture; suppose you applied that to a potato, for instance?—To a certain

extent you can; but in the development of a potato you could not conveniently have the conditions of soil, and so forth, in a classroom you must have some other simpler thing. For object-lessons it is necessary to take things that can be handled easily in a classroom. If there were a little garden, that could be done by planting potatoes at different times, and showing them the development.

14282. Rev. Dr. EVANS.—Brother Thomas, have you any provision for teaching agriculture in connection with the College?—Is it here in our College?

14283. Yes, in connection with your College?—We have. We have a small farm about three miles outside of Waterford, to which our students go to see in the course of the year the different farming operations. The Professor of Agriculture gives his lessons in the College, and then he takes certain points, 1, 2, 3, as the case may be, which he wishes them to attend to in the fields, and they go out every week.

14284. And you believe they profit by that?—Well, they do, to some extent.

14285. Do your students come from families engaged in agriculture?—Largely, perhaps—yes.

14286. Then do they have a knowledge, to any extent, of agriculture before they come?—They have the rough knowledge of agriculture which one naturally expects in the country among boys, but they have no systematic or intelligent knowledge of the subject when they come here, so much so that we have to begin at the beginning, and go through with the instruction, like the growth of a plant.

14287. Do you believe that they will be capable of teaching agriculture in the schools when they get their appointments?—I do, but I believe that the greater number of them won't care enough for it to do so; they won't have interest or enthusiasm enough, and if they have not that, they won't do it; they will simply take the book, as long as it is part of the course, and there are result fees for it, and make the boys memorise it, and nothing more.

14288. Referring to what you said in answer to the Chairman, about drawing, would you indicate, Brother Thomas, what you consider defective or faulty in the mode of teaching drawing in the National schools?—The ordinary mode of teaching drawing is this; a model is placed before a boy, and he is told to draw away; he is not shown how to begin or go about it. The same system to a great extent was prevalent, and is prevalent still, in regard to penmanship. You get a copy-book, there is the headline, and you are told to imitate it; but an intelligent explanation of how the letters are formed, and how the boy ought to begin to form them, and hold the pen, as a rule is not given. These are two points we are trying to urge into the schools as much as possible.

14289. CHAIRMAN.—Whose fault is it that the teacher takes so little pains—as is the fault of the manager?—It is simply defective training.

14290. Defective training of the teachers?—Well, up to this the teaching staff has been mainly supplied from monitors, and these monitors were trained by the previous teachers, and they imitated the teacher; they know no more than he does, and just the way he taught writing and drawing, they teach them.

14291. Rev. Dr. EVANS.—I see what Brother Thomas means: you do not apply those remarks so much to those that were trained in the Training College?—Oh, no.

14292. But to monitors and pupil teachers who become principal teachers without having passed through a Training College?—Yes.

14293. Do you give instructions in horticulture?—Nothing distinct from the farming.

14294. Do you happen to know whether there are school gardens in connection with National schools

in this locality?—I do not know of any in this locality connected with National schools.

14295. Mr. MOLLOY.—Brother Thomas, are you not aware of the Board's rule, to the following effect:—"The Commissioners require that in all Training Colleges, and in the practicing schools connected therewith, satisfactory provision be made for instruction in drawing and vocal music"?—Yes.

14296. A while ago, when you said drawing ought to be made compulsory; I did not know whether you meant in the colleges or in the schools. Which do you refer to, because that is a strong recommendation almost equivalent to an order? It is expected that in all training colleges satisfactory provision will be made?—Yes, but up to the present programme it was not compulsory in the Training Colleges; it was an extra, it was given to students who wished to take it.

14297. As a matter of fact these rules of 1890, (prior to the issue of the new programme), conveyed that as a recommendation, almost equivalent to an order, as far as the training colleges were concerned. Is drawing to scale taught in your schools?—Yes.

14298. Is measurement a special subject, and the application of practical geometry to drawing?—It is connected with geometrical drawing and plan drawing.

14299. Then probably your teachers hereafter will look for certificates in that particular branch?—In that particular branch.

14300. And it is to be hoped that getting charge of schools later on, they will introduce the subject?—It is to be hoped, especially for the benefit of those boys who will be anxious to turn in the direction of carpentry or building, where they will have a use for it in drawing their own plans and making their own designs.

14301. What is your view with regard to making drawing compulsory in the ordinary National schools, both rural and town?—I think, as far as possible, it ought to be.

14302. In both classes of schools?—In both classes.

14303. That is, in fact, whenever the teacher holds a certificate in drawing—in that I include drawing to scale—he ought to be compelled to introduce the subject?—I think he ought; there are few things more necessary and useful to children than drawing.

14304. Coming to agriculture, what is the size of your farm?—About fifty acres.

14305. That is not connected with the National Board in any way?—No.

14306. But it is utilised for the benefit of the teachers; they are brought out there?—It is used for illustrating the professor's lectures.

14307. Does the Professor of Agriculture accompany the students in training to your farm?—Yes, he is there with them.

14308. How often do they go to your farm?—Once a week.

14309. They don't take any practical part in working on the farm?—No.

14310. CHAIRMAN.—Do you think they take any interest in it, or merely go because they are obliged?—Well, not much; if they were left perfectly free the majority of them would not go there.

14311. Mr. MOLLOY.—Did you ever think of creating an interest by giving individual teachers small plots to work at on a regular system of rotation of crops?—That has often been spoken of, but then it takes a good deal of time, and we are anxious about other subjects on the programme.

14312. Agriculture is a very important subject on the programme, and a very high fee is paid for the instruction of pupils in that particular subject

Walsford.
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Rev. Brother
Thurston, &c.

theoretically, and also a special fee paid in connection with the National Board, if they work out on the farm, would you think of connecting your farm with the National Board, and identifying the College more closely in its agricultural instruction in that way?—The chief difficulty is that the students have not sufficient enthusiasm or taste for the subject to do anything.

14313. Will not try to create a taste in those students who come to you, most of them being, I presume, farmers' sons?—I am afraid it is those ones who do come, who have not got the taste for farming, if they had a taste for farming they would remain at farming.

14314. The third subject you referred to was kindergarten; have you thought out any scheme by which the principles of kindergarten could be extended regularly from, say, Classes III. to IV., V., and VI., and not confined exclusively to infants and Classes I. and II.?—Nothing more definitely than the general scheme which we do carry out, so far as our opportunities allow us, of carrying the kindergarten on in the form of object lessons and little scientific lessons.

14315. There is a museum connected with your College?—There is a small museum of objects for the object lessons I spoke of.

14316. Then your students have access to that, and receive instruction regularly from one of the professors?—As a rule the professor brings the objects into the class, just in the way that we expect the teacher himself should bring his little objects into his class. If it be a lesson on some of the ores of that particular locality he takes a few samples of the ores into the class with him, and with the blackboard gives a little instruction.

14317. Have you any chemical laboratory in your College?—We have a small commencement of a laboratory for the same purpose.

14318. Do the students themselves experiment?—No, they do not, except so far as the teacher may ask them to help.

14319. Is your College connected with the Science and Art Department for any subjects?—It is.

14320. What see the subjects in connection with the Science and Art Department?—The art subjects, drawing, and secondly, the science subjects, mathematics, and natural science, that we may be doing that particular year; natural philosophy, the present year, under what is commonly called physiology, and physiology and hygiene.

14321. An examination was held in May?—Yes.

14322. Were your students successful?—Well, fairly successful.

14323. Of course you are aware now that the National Board will recognise satisfactory proficiency at the Science and Art examinations and not oblige the student to be examined on the Board's paper, as in the past?—That is part of their new programme.

14324. You said you thought there would be no interest taken in manual working in wood do you think the difficulty arose in regard to expense?—I think a good deal of interest would be taken in it, if it could be made feasible, the difficulty in bringing it into practice arises from the probable expense, and the difficulty of meeting that expense. I think there has been a pretty good illustration of that in the girls' industrial scheme, the alternative scheme of work for girls, which is a comparative failure in the country, and mainly because of the difficulty of meeting the expense.

14325. As a matter of fact we visited two very large Convent schools yesterday, and the nuns informed us that the alternative scheme was a complete success, and they liked it very much; but, generally speaking, it has not been carried out?—No, it is in Convent schools it has been principally carried out.

14326. No attempt has been made in connection with your College to introduce working in wood?—No regular attempt; I did make an attempt so far as to try and get a teacher trained inloyd and manual training from the continent, but the answer in every case was that he could not be spared—they would have to stop a course if he went.

14327. If you had been successful in getting a skilled continental, you would have introduced it here?—That was my intention, to have commenced it this September.

14328. You may be able at a later period, and then you intend to introduce it?—I intend to introduce it as soon as it is feasible.

14329. Rev. Dr. Evans.—How many Queen's scholars have you?—We have at present 150.

14330. How many other students have you in training, in addition to the Queen's scholars?—That is the entire number.

14331. I thought there was another class besides, of your own order?—The members of our own order are included in that 150.

14332. Mr. Mollot.—For what number is the college housed by the National Board?—For 150.

14333. Rev. Dr. Evans.—And you have the full number?—The full number.

14334. Captain Shaw.—You teach drawing to all your students; has it been your experience that any of them are incapable of becoming teachers of drawing?—No, we find that everyone of them can qualify perfectly well for the ordinary drawing required in National schools.

14335. Would you feel confident of giving them certificates as teachers in drawing after they have gone through a course in drawing?—I would, some of them have failed to get certificates for some reason or other—accidental reasons.

14336. But you think the College authorities could give certificates?—They could, but I think it is preferable for outside parties to give the certificates.

14337. Then as to the sort of drawing which should be taught in elementary schools, you think that should be confined to freehand and scale drawing?—I think that would be quite sufficient.

14338. And, perhaps, model drawing for more advanced classes?—Yes, more advanced.

14339. In talking of models, you said a model was put before students—that meant a flat example—in elementary schools?—Up to this it was only flat in elementary schools.

14340. Then, with regard to agriculture, you think that might with advantage be dropped as a subject in elementary schools, and replaced by a course of experimental science?—I think it would be an advantage in primary schools, fifty per cent. of these children will never be farming at all; the large number of them will be more labourers and simply have to do what the farmer tells them.

14341. Then you contemplate of course that this experimental science should be taught practically, that the apparatus should be present in the school, and used by the teachers in giving instruction?—It should be, certainly.

14342. Otherwise it might be learned out of a book—the same as agriculture?—The same as agriculture, but it will be attended to with great interest, while agriculture will not, it appears to me.

14343. Is it not very important that the teachers should learn the use of apparatus under these conditions?—It would be very useful that he would be able to make up little things for himself.

14344. Is not the training college the place for him to learn that, rather?—It is to a great extent.

14345. Would you approve of laboratories for teachers in the training colleges, where they should

go through a regular course for themselves—I would, but our time unfortunately cannot be given to it; we have a very stiff programme to go through in other subjects, and it is very hard to give much time to any one subject. As things are at present with us, we are taking the natural and physical sciences, but teachers know that such subjects are not part of the school programme, and that they are not required to study them by the National Board, so that the College is handicapped in this way, that the teachers would say: "Oh, that subject is not necessary. Why should I give much time to it—why should I give much care and attention to it?"

14346. You think if it was made a subject in the syllabus for teachers they would give more care and time to it?—Certainly, and if it were brought into the curriculum of the school, they would see there was practical utility in it, and they would give a great deal more care to it.

14347. With regard to object lessons: do you think that they should learn one subject continuously, say as a course leading up to science or leading up to agriculture, or that they should be haphazard, as taken now—one day you get a flower, another day a steam engine, and another day something else?—They should follow a definite course of subjects. In England they have marked down for primary schools a definite course of object lessons that the teacher is to go through, and that course varies according to the standard.

14348. Of course it is a one step out of an object lesson that the object should be present?—Yes.

14349. Do you approve of having only pictures of the object?—If you cannot get the object, the nearest thing is to have the picture.

14350. But there are sufficient objects without going to pictures?—There are sufficient objects.

14351. CHAIRMAN.—Do your Queen's scholars do anything when they are having a lecture in experimental science, in the way of measuring and weighing objects themselves?—Not much, we have not done much really in the way of experimental science for the students.

14352. It is more a lecture by the professor?—It is more a lecture.

14353. And they don't try to give effect to that themselves?—No; because it occupies relatively too much time.

14354. Rev. Dr. WILSON.—Could you give any idea of the probable proportion of students that have a special aptitude for drawing?—I think at least 50 per cent. have a very good aptitude.

14355. I am sure we are all agreed with you as to the importance of drawing as a fundamental subject?—At least 50 per cent. show a very good aptitude and taste for drawing.

14356. Do you think is the appreciation of drawing increasing generally among the students?—I think it is, because it occupies more towards a school than it used.

14357. As to chemistry: do many take an interest in that?—Everyone takes an interest in that, to some extent. The chemistry which we have started this year is strictly agricultural chemistry, for the sake of giving a good foundation to the agriculture which they have to learn.

14358. I think it is very important that you have such a very large factor as fifty acres—do you keep any cattle at all?—Yes.

14359. Because rearing cattle in this district is an important part of the agricultural industry, and to know the different kinds of cattle that are best, and how to rear them?—Of course that is a point that the Professor of Agriculture calls special attention to in the course of his instruction.

14360. In your programme of studies such that you could re-arrange it to find room for manual

training, if it was considered important to do so?—I think so—I think it could be done.

14361. You say they don't show much desire for wood or metal work; in England we found testimony borne freely that whenever they had commenced it they took a great interest in it, and I believe it would be the same with you?—I believe myself that, firstly, the boys in schools, everywhere where it is done—we have many schools in which it is done—take a very great interest in it, and it improves the school and makes them more in earnest. Now, with regard to teachers, as long as it requires much time, and tends to take them away from other subjects in which they require to get certificates, there will be a certain feeling against it; but such would not be the case if it were part of the school programme.

14362. I think there is a reasonable prejudice in the minds of many against manual training, against woodwork and metalwork, but the testimony borne to us was that really the time spent on this did not interfere with their literary studies, for they came back with more zest to them?—I believe that wherever we have any of that instruction, it does not interfere in the slightest degree with the literary instruction.

14363. Mr. BENDISBRO.—Do I understand you to say that you would wish the present mode of teaching agriculture entirely changed?—It seems to me that it would be beneficial to the school to do so.

14364. And you would substitute for it the elementary principles of natural and physical science?—I would.

14365. Then, what would be the use of school farms?—In that case they would not be much use at all.

14366. Would a small garden be sufficient for teaching the elements of botany?—Quite sufficient.

14367. From your knowledge of the schools of the country, would it be possible to have sufficiently large gardens attached to every school in which the principles of botany could be practically taught?—Perfectly easy, I have seen cases where boys had a little flower bed, varying from half the size of this table to the full size, there they would plant flowers, and follow them up through the whole course of the year.

14368. Have you any experience of the mode in which agriculture is taught in other countries, say France or Belgium?—No, except in the Beauvais Agricultural school.

14369. You don't know whether it is taught in the ordinary primary schools in France?—Generally speaking, as far as I am aware, it is not taught, but the principles of the natural and physical sciences are taught instead.

14370. Are you familiar with the science programmes that are contained in our rules?—I am fairly familiar with them.

14371. Do you think them suitable or not?—In some cases they are too extensive.

14372. Do you think that a science programme might be devised which could be taken up by boys in the fourth class?—I think so, certainly, beginning in the fourth and ending in the sixth.

14373. Then about drawing: do you teach the Queen's scholars in De la Salle Training College both manual drawing and drawing from the flat?—Yes, we do.

14374. Would you give a certificate to a teacher for one kind of drawing only?—Well, I think it would be reasonable for him to get a certificate for one kind of drawing.

14375. Would you encourage him to take up two kinds?—I would encourage him to take up two.

Witness.
Sept. 29, 1895.
Rev. Rector
Thomas, W. A.

Waterford,

Sept. 29, 1887.

Rev. Brother
Thomas, &c.

14376. Do you think that the study of geometrical drawing ought to be more encouraged than it has been?—I think it should; it is indispensable for all the boys who have any tendency to go to carpentering or building work; they require geometrical drawing.

14377. Do you think that heretofore we have asked too high a percentage of marks for our certificates in drawing?—If you consider the subject itself, I would say not, but considering the question of getting it spread as much as possible in the schools, I say yes; a large number of teachers at present could not get that percentage.

14378. Do you think a certificate gained by examination only is any proof that a teacher can teach drawing?—No, not exactly, because, as I said, he might not know the first thing about how to teach it.

14379. What would you say to allowing a teacher to teach without a certificate if the result of his instruction is that the pupils know how to draw?—I think that would be an advantage for a very large number of schools at present.

14380. CHAIRMAN.—With reference to school plots: I gather from what you said that you think the want of taste in that direction would be rather with the teachers than the children?—I think it would, because, as a rule, the boys in a school will be just what the teacher is. They take to everything, and do well everything that he has a taste for, and shows enthusiasm for.

14381. But you think that, on the whole, the teachers being persons who, if they had any taste in that direction, would not become teachers, would not take an interest in it, but, on the other hand, a great many of the children, who probably would be farmers heretofore, would take an interest in it?—They would take an interest in it if the teacher had an interest in it.

14382. Do you think that the system promoted by the National Board should not look to the interest and advantage of the children, and what would be useful to the children afterwards, rather than to what would be to the taste of the teacher?—The primary thing is to look to the benefit of the children; but the question is how are you to reach the children? It would appear that if it is desirable to give the children a good course of agriculture for the benefit of the country—all the teachers are not farmers, all the boys will not be farmers—it ought to be in special schools.

14383. Special schools should be established throughout the country?—For that purpose.

14384. So, do you think, on the other hand, that special teachers, peripatetic teachers, going round a number of schools would be an advantage, giving a lesson once a week, or once a month, or once a fortnight, in each school?—That would do very well, but I do not think it would be at all as efficacious as having special schools directed by a teacher who had a special aptitude and taste for it, and the pupils who would go to that school would be those who had finished in the National school, having got a preliminary preparation for it in physical and natural science, and who showed they had a taste for it.

14385. Do you think that it would be possible in Ireland to establish a sufficient number of schools of that sort to be within the reach of the population generally?—I think so; say in a certain locality one of the National schools might be selected for that purpose.

14386. And there should be a plot attached to that one school at which children who lived within range should attend, after they had finished their ordinary education?—Yes.

14387. Captain Shaw.—Have you noticed the effect of science teaching on the children in other subjects in the school?—do you think it has a beneficial effect on the other subjects?—It has a very great benefit, partly I think on account of the recreative effect and rest and change of mind which it gives, just as the little woodwork would do. It is a complete change from the dry bookwork of other subjects.

14388. It calls in the observation and reasoning powers. If properly treated, more than other subjects which may be learned off by heart?—That is one way in which the children will be improved, by having their little powers of observation developed.

14389. Then it encourages the teachers of other subjects to teach them more rationally?—It does.

14390. Well, as to the framing of a syllabus, do you think it desirable that a strict syllabus should be laid down for each subject?—In the schools I think it would be necessary to lay down a strict syllabus on many lines, or otherwise the teachers will, many of them, run too much out of it, they won't follow the course but will take up things at haphazard.

14391. Mr. MELLON.—Assuming that these special agricultural schools, to which you have referred, were established in Ireland, at what age would you expect boys to go to these schools?—As soon as they finished in the ordinary National schools.

14392. Would you say fifteen?—Fourteen or fifteen.

14393. And how long would you contemplate their remaining in these schools?—I think a year would be quite sufficient to go through a complete course of agriculture as illustrated on a farm.

14394. CHAIRMAN.—An individual pupil attending, say, once a week?—Often.

14395. Your idea is that they should still remain as school boys in fact?—Yes.

14396. Not merely that there should be classes given for a group of schools taking the children of a part of the district one day and another group another day?—It would appear to me that they should be regular school boys, but the main subject taught in the school, both theoretically and practically, would be agriculture, and if they had only two hours theoretical, they would have two or three hours a day in the field or garden as the case might be.

14397. Do you think the parents would spare them from the work of the farm for a year after finishing their ordinary school work?—That raises the question again about the attendance.

14398. That would be a practical question?—It would.

Dr. J. B. SHEPPINGTON, District Inspector of National Schools, examined.

14399. CHAIRMAN.—You are the Inspector of schools for the Waterford district?—Yes, my lord.

14400. Will you tell us how far your district extends?—It extends sixty-five miles in length, about thirty miles to the north of this, to the county Carlow, and thirty-six miles to the south-west,

beyond Dungarven, it includes portions of four counties, Carlow, Kilkenny, Wexford, and a large part of Waterford.

14401. You are aware that the scope of our inquiry is limited, and, therefore, questions must be confined to matters within it; we won't go into the

ordinary literary subjects. Perhaps you would begin by giving us your views upon the subject of needlework?—The industrial scheme was largely taken up in this district and the county Kilkenny, amongst almost all the schools in Kilkenny and a large number of schools all through this district, but many of them have now given it up. All the convent schools in Waterford, for instance, have now given it up, and there are few within the city.

14402. I should like to get the distinction between ordinary and industrial needlework?—Ordinary needlework is taught in every school where there is a workmistress or a teacher of needlework, for an hour in the day.

14403. That is compulsory?—That is compulsory. The industrial scheme was, that the girls of the sixth class should spend most of the day also at various branches of needlework, that has been limited hitherto to two hours in the day altogether under the industrial scheme, but even two hours in the day was considered too much, certainly by all the teachers, they would all be glad to get rid of it for the two hours, they think one hour is enough, and, practically, it has been got rid of in a great many schools for the two hours, but all retain it for one hour. In Dungarvan there are two convents, one convent has given it up, the other still retains it. In New Ross both the convents still retain it. In Mallow they still retain it.

14404. Do you include sewing machines and dressmaking under the head of industrial instruction?—Dressmaking is one branch of the industrial programme. There are fourteen or sixteen subjects included in the industrial scheme, dressmaking is one of the special subjects, sewing machine is not, it is an extra, and now, united with dressmaking, may be taken in any school as an extra branch, sewing machine and dressmaking.

14405. Is there a special fee?—Oh, yes.

14406. Is that popular with the teachers?—To a considerable extent it is, but not so much now, when dressmaking is combined with sewing machine; formerly sewing machine was a special extra, but it was considered it was too easy for a girl to spend the year at, and now sewing machine and dressmaking has been combined as one extra, and since then sewing machine has not been so much taken up, but it is still to a large extent taken up in the convent schools where they have the ordinary needlework scheme without the industrial, they do take up largely sewing machine and dressmaking. I may say that it is thought that in an hour of the day they can do enough needlework.

14407. Will you now give us your observations on the subject of kindergarten?—I think that all teachers should know and apply the principles of kindergarten; it is at present taken up chiefly in the convent schools—very few others, because it requires a special room and special teacher—and even in those it generally extends only through the infant and first classes on account of the fact that it requires a special room, because the second class have generally left that room, and the third class have nearly always, so that at present it is almost confined to infants and first class.

14408. I don't quite understand the matter about the rooms?—Kindergarten cannot be carried on, at least it may be carried on, but it won't be recognised as a special branch and paid for unless there is a special room set apart for infants.

14409. For instance, take the Model School we were in to-day, which does not appear to be full, why could not a room be set apart there?—But that room is occupied by the infants and first-class children.

14410. Could not another room be set apart for more advanced children?—It could not well be called

an infant department, the kindergarten is carried on at present only in infant departments.

14411. In England I understand it is carried on beyond the infants, why should it not here?—Certainly it should be carried on.

14412. Is it anything more than a want of room? Teachers believe it would not be paid for as a special branch.

14413. Supposing it was paid for?—Then there would be no difficulty about it, because a great many parts of kindergarten don't require special rooms and special desks.

14414. What do you say about object lessons, drill, marching, and so on?—These are parts of kindergarten that don't require special rooms and desks. Object lessons could go through the school, in all classes, various kinds of objects from the simple cube up to the chair or table or machinery, and parts of machinery more difficult for the sixth class.

14415. Is there any paperfolding such as we saw in some of the schools in English towns, and wire-work and things of that sort?—You see it is limited to the first class, and there is a certain programme for each class, and the teachers don't go beyond the programme laid down. There is a little paper weaving, making little basket work.

14416. What they call cardboard work?—Yes, there is a little of that, pricking and stitching of patterns on cards.

14417. Making some objects on cards and cutting them out?—No, I don't know that they do, they fold the paper.

14418. Do they fold the paper pursuant to instructions given on the blackboard when a certain line is given by the teacher?—No, it is more after the teacher's example.

14419. He does not show it on the blackboard, first make a mark and then tell them to do it?—No, I don't think so, I don't think they do much paper-folding, I have seen very little.

14420. Is there any in Waterford?—I cannot recollect that I have seen much of it, I did see it in one school, but not here.

14421. What do you say with regard to drawing?—Drawing is a branch of kindergarten too, it should follow all through the schools from the infants up; the first class should draw on chequered slates, the second class on chequered paper, and the third class on plain paper.

14422. Do any of them draw on boards with chalk?—The teachers draw on the kindergarten board in the kindergarten school, and the children draw on kindergarten slates.

14423. The children don't draw on the board themselves?—I don't think they do.

14424. We saw that in one of the London schools, not small children, but advanced children drawing on the board themselves?—I don't think they do it here.

14425. To come to a subject we have heard a great deal about, agricultural farms and school gardens?—Agriculture is taught from books, of course, in nearly all the rural schools under masters, all in fact. My opinion differs from the opinions of most others on that point, I think it is useful to teach it from books in country schools, because the country boys know the subject matter, they are accustomed from their childhood almost to planting potatoes, and weeding turnips, therefore it is not harkback to them, it is instruction about what they already know, and it can scarcely be otherwise than very useful when properly taught by an intelligent teacher. What they want to know are the principles of and the reasons for, what they have been doing all their lives; they can get that from books and teachers, and I think the book teaching must necessarily be useful with boys who know the matter already, not with town boys of course who may attend the schools.

Waterford.

Sept. 28, 1897

Dr. J. B. Sandilands.

Waterford.
 Sept. 28, 1882
 Dr. J. B.
 St. George's

14426. Do you think there would be any advantage in having a school garden attached to each rural school?—Yes, I do, there are three school gardens in this district, and the teacher of one of them told me that a good many of the boys have got gardens, and introduced vegetables that were almost unknown in the country before; and the nuns at Biscally have got a garden lately to teach the girls, and they told me that the girls were asking the seeds of flowers from them, and beginning to have gardens of their own at home. I find there are very few gardens in the country, in four schools in one parish I found by asking the children to put up their hands, that only four of them had gardens at home.

14427. That is attached to their own houses?—Yes, these were all the children of one parish; in these gardens they had only cabbages and potatoes. I think it would be useful to teach them to grow peas and cabbages and lettuce and useful vegetables, and fruits.

14428. Would you limit a school garden to one rood or half an acre?—I would not like very much more than half an acre, a garden can illustrate a great many of the principles of agriculture, the training and the pruning of trees, and even a four course rotation, they can be made experimental plots for raising new varieties of potatoes. In fact I know one place in which a teacher, out of half an acre of almost barren soil, sold £130 worth of produce in one year, with only twelve days' labour paid, that was near Belfast, he brought out a new variety of potato, and the Educational Board took three or four tons from him, Wesley Forbes, of Tullymore. He tells me he has a new variety this year, and also a new variety of tomato, which he thinks will make him famous.

14429. Do you think it would be useful if Parliament enabled managers of schools to borrow sums of money to provide gardens?—Most useful. I think there should be attached to every school a garden, and there should be prizes for those just as for the railway plots in the North, they have beautiful plots there with the names of the stations worked in flowers.

14430. And in shells?—And some of them in flowers, and if a system of prizes were given in schools to the teachers who kept the neatest gardens and plots, I think it would be of great use.

14431. Now, with regard to cookery and handicraft?—Cookery was taught in this district during the past year in three schools by Miss Diksen and Miss Pring, both from the Royal Irish Association for the Technical Training and Employment of Women, a large class of 130 girls in the Ursuline Convent was taught, and eighty were examined; and in the Dungarvan Convent of Mercy Miss Pring taught a large class, and in the model school also. The pupils were very enthusiastic, and showed great pleasure in the work of cookery.

14432. Is the convent we saw at Kilkenny yesterday in your district?—No, I don't go so far up, I only go to Thomastown.

14433. We saw cookery there?—The little girls certainly take great interest in the matter, the objection is that it is a little expensive, in fact the nuns here in here is town.

14434. What system is adopted? Do they find the materials?—They find the materials and the apparatus. The lecturer gave the lessons, demonstrations, and had the children in classes of sixteen each, working at the cooking for two hours in the day, generally two classes in the day, one in the morning, and one in the evening, two hours each, they had to give twenty lessons, and each pupil should attend sixteen of them to be examined.

14435. What became of the articles after they were cooked?—The Ursulines gave them to the pupils

in the Dungarvan Convent the pupils bought some, and I suppose they were able to make some use of the others; in the Model school here the pupils bought a good many of the dishes made.

14436. Was that done at a loss?—I have the figures. In the Model school there were thirty-one taught from 9th of March to 4th of May, two days a week, the cost was £5 8s. 6d., including £2 for a stove, which is still there, and will be utilized this year again, results, £6 17s. 6d., sales, £1 8s. 10d., there was a loss of £2 3s. 4d. about.

14437. That would include the stove?—Yes.

14438. But if you take the stove as capital expenditure?—Yes, there would be little loss, it was a second-hand stove, we got it from the Department in Dublin.

14439. How many years' life would that stove have?—It might last 4 or 5 years.

14440. If you took the fifth part of 40, that would be a fair depreciation?—Well, the girls at the Model school took very much interest in it and purchased the dishes, it is not every school in which the children would be able to purchase the dishes made, I am not quite sure it was the children purchased all these, but they were sold. I know that a number of convents are anxious to take it up, one has applied for an instructor and has not been able to get one. About handicraft there is one school in which that is taken up, the most southerly school in the district, at Ring, 6 miles below Dungarvan, there is a very energetic teacher who has a small farm, he went up to Dublin and got a certificate, and teaches handicraft, teaches in a classroom building. I examined 9 boys and others had previously passed. He provided tools and they had benches in this building. They had sharpening of tools, sharpening a chisel or knife on a grindstone or old stone, marking and sawing off pieces of wood of given dimensions, driving in screws, putting on hinges and planing, that was the first year's course, and the boys were very eager and anxious about it, and the teacher told me that there is no subject in which they take so much interest or which they are more delighted with.

14441. Do you think that they take an interest because of the fact that they have to do things by measuring and thinking what they have to do first?—The chief interest to them is the activity, it is just like kindergarten in the upper classes, children like motion, hot boys like more vigorous motion; they like activity and the doing of it and the accuracy of the measurement.

14442. Do you think that this subject is a good deal misunderstood in Ireland?—I do, certainly.

14443. I have seen it more than once described as chipping wood, as far as my experience goes there is no chipping of wood as a matter of fact?—No, there was no chipping at all by these boys.

14444. The use of the axe is very rare?—I did not go into that part of it, the teacher told me that they made little boxes and birdhouses.

14445. That requires thought and measurement?—It does of course to be able to measure off inches and parts.

14446. And a certain amount of drawing?—They have to draw lines first, of course. Of course this is only in a rudimentary way, and I may say the teacher would have had more pupils present if he could have presented them according to their age and size, and not by their classes; he had a number of big boys who were not in the class to be able to be presented, 26 boys had worked during the year but only 9 were examined.

14447. Why were not more examined?—Because these were all that were eligible according to the rules to earn result fees.

14448. Mr. RANSTON.—They should be in the

5th sheet—Yes, some of those boys were 3rd, and some 4th, big country boys.

14449. CHAIRMAN.—Then their proficiency in this manual or handicraft work is to be judged by their proficiency in literary work, because they are classed according to the literary work?—That is so according to the present arrangement.

14450. That is not a good plan?—I don't think it is.

14451. It is like a system that formerly prevailed at Cambridge, of not allowing a person to go in for classical honors unless he had obtained a certain degree in mathematics?—Yes, it is something analogous to that.

14452. Rev. Dr. EVANS.—How long are you in this district?—I am only from the 1st of January.

14453. Have you been round all the schools?—I believe I have visited all except one, I believe there is one school I have not caught up yet.

14454. What proportion of teachers in this district are unfitted?—I am not able to answer that question, but I could find out for you if you wished.

14455. You have told us that the industrial programme is being given up, and I want to know whether it has been given up in any school under a trained teacher?—Yes, I think so, but I don't think that makes any difference, I think they are all eager to give it up, that is the two hours.

14456. Do you think it is a waste of aptitude to teach on the part of the teachers that has to do with this?—I don't think so, because the idea is, that in an hour in the day they can do good enough work; and they can and they do, where they don't take it up; indeed I have seen quite as great a variety and quantity of needlework of various kinds as in these schools where it is taken up.

14457. You have experience in Ulster?—Largely; I am nearly twenty-three years inspecting in all parts of Ireland.

14458. Do you know why the industrial programme was not taken up in Belfast?—I do, it was thought the needlework was very well taught, and I know it was, I have specimens of needlework before the industrial programme came out, quite as good as any I have seen since; they thought it was a waste of time to take it up, the cost of materials was one objection, and the want of a market, and it gives dwelling habits to girls, sitting for two hours over work.

14459. You said there were three places where there were school gardens?—Yes, Instisnoe, near Killybeg, Killymacree and Stradhall's convents, those last two are only recently connected.

14460. In those three school gardens what do they principally do?—They grow the ordinary vegetables of course, they grow some potatoes, cabbages, lettuce, beans, small fruits, and some large fruits.

14461. How does the teacher of the school garden get measure?—In Instisnoe he keeps fowl and a pig, and I suppose he buys artificial manure; I think he has a cow, that man.

14462. Do you know whether in any of them they try experiments with artificial manures?—I do not know it as a matter of fact, but I have no doubt this man in Instisnoe tries artificial manures, he also keeps bees, and has introduced the bar frame system.

14463. Do these schools, where the school gardens are, attain as high proficiency in other subjects as those that have not school gardens?—Oh, yes, I think so, quite so, there is only one, it is a very small school, it is a sort of exceptional school, the other two are not long enough under the system to judge, but I have no doubt that they will do quite as well, if not better, because it is a recreation for the children.

14464. By parity of reasoning you would come to the conclusion that manual instruction should rather accelerate proficiency in literary subjects than

retard it?—It would have a good effect, it would be a change from the stretch on the mind, it would be a rest to the mind to give the body exercise.

14465. Provided we were able to introduce manual instruction, would it require any change in our inspectional staff, or addition to it, or a new element in their qualification?—Well, I think the Inspectors would very soon learn enough, especially if they get some little training in the Training Colleges in Dublin, they would soon learn enough to judge what was being done and how it was done; there are some very nice books about it, and if they saw it done in the Training Colleges or here, and got three months or so at it, I think they would be very well able to inspect it.

14466. Is there any observation bearing on this manual instruction, that has not been touched on by any question, that you would like to make?—Well, I have a great deal down on my notes, but they would be rather long. I think teachers differ a good deal in their tastes. I know one teacher in the county Down, first of first, he did all the repairs himself, remodelled the desks, and had a model garden made out of a piece of bare soil. I know one in the West, a third class teacher, and when I pointed out a desk as wanting repairs, he asked me would I want a teacher to be a carpenter. I know another, in Cavan, first of first, who boasted that he made the desks with his own hands, and did a good deal in building a house for himself. I know Wesley Forbes, who says he is an expert in cabinet-making, French-polishing, mechanics, photography, gardening, fowl-keeping, farming, &c., he "will be ready for anything the Manual Commission may be the means of introducing," so teachers differ very much. I think if the teachers took it as an advanced kind of kindergarten, and took the scientific aspects, as applied to science, the making of scientific apparatus, they would take an interest in it gradually.

14467. Mr. MOLLOY.—A great deal of confusion arises from the term "Industrial scheme," you used it here, but it is not perhaps what you mean to convey. There is needlework instruction in the ordinary schools for an hour a day, there are also industrial departments in which needlework is taught?—Yes, that is different.

14468. You don't mean those?—No.

14469. I want to come at what you do mean; is it the alternative scheme for sixth class girls?—That is the one.

14470. By the word alternative is meant alternative literary and industrial, not altogether industrial?—No.

14471. Is it not largely literary?—It is not; where the industrial is taken up it is half and half. It was intended to be more industrial, and at first it was more, it has been reduced now in consequence of the complaints of the teachers that the whole day was nearly given up—it has been reduced now to two hours.

14472. Is it a matter of fact that three hours were ever prescribed by the National Board to carry out the alternative industrial scheme for sixth class girls?—It was not laid down in words, but it was understood to be so; but when exemption was sought it was reduced under pressure from managers and teachers—I think it was intended to be three hours at first.

14473. Was it actually prescribed?—I don't think it was mentioned exactly in figures, three hours.

14474. As a matter of fact it was not, and now two hours would suffice?—Two hours—forty minutes for each of the three branches.

14475. Is it believed in schools where senior girls are in attendance that two hours is too much to devote to needlework?—Decidedly. The aim of the Ursuline convent object in consequence of the

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dawdling habits is created, and the nuns in St. Joseph's have given it up, and the convent at Ferrybank has given it up.

14475. A moment ago you mentioned two hours: it is not necessary that these hours should be continuous?—I am not sure that I said continuous, but it may be an hour in the morning and an hour in the evening.

14477. And that is believed to be too much?—It is. With an hour a day they can do quite as much. I had far better sewing in the North, where there was an hour a day, than I got in the county Kilkenny, where the industrial scheme was in almost every school in it, and I could show you the work.

14478. What I want to have emphatically from your evidence is that the alternative scheme was not exclusively industrial, it had a large literary element?—At first it was about one-quarter literary; it has now come to about one-half.

14479. The literary portion included reading text books on suitable industrial subjects, domestic economy, with a knowledge of the subject matter, English composition, letter writing, that might enhance exercises in geography and grammar, and also exercises in short accounts; so that virtually no important literary subject was disestablished, so to say, by the introduction of the alternative industrial scheme?—I beg your pardon, practically there were, arithmetic was disestablished, and grammar and geography were practically disestablished; it was said you might do this or that, but you might teach anything you like, provided you taught what was required by the rules, practically the teachers taught reading and those books you refer to.

14480. CHAIRMAN.—While you are on the subject of reading, do you think the reading of the sixth class is, on the whole, satisfactory or not?—I think the sixth class book—

14481. I am not talking of the book, but of the practical reading?—On the whole it is very fair indeed.

14482. The reason I ask you is that I have been in the last few days in two schools, and I really could not follow the reading from their not raising their voices and speaking distinctly?—That may be, but really after all, reading is to understand the sense of what is read, and as one inspector said, most people read quietly. Of course reading out, elocution, for the benefit of a listener, is a different matter, and they may be taught that in various degrees.

14483. Mr. MASTON.—Would you attribute the want of popularity of the alternative industrial scheme to want of skill in needlework on the part of the ordinary teachers?—Certainly not, because the same branches that come under industrial were and are taught by the teachers without being specially industrial at all, for instance, crochet and knitting wools, and that. I saw several schools in the county Down, Downara was one, they never took up the industrial scheme, but they had the school being round with articles of various kinds most beautifully, all the articles mentioned in the industrial programme.

14484. Am I to understand that the whole objection to the alternative literary and industrial scheme is that two hours a day devoted to it is too much?—No, that is not all, but the fact that the two hours left too little for the literary part; the fact that the things made were too many, there was no market for them, they were too costly to produce, and the children did not want them; there were half a dozen reasons. And I heard the other day in a convent school that still has the industrial scheme, that they found it difficult to obtain nuns; when a nunnery had been two years in the industrial they found it very difficult to bring them up in arithmetic and grammar.

14485. Of course you are aware that half of the sixth class may confine exclusively at literary work,

with one hour at industrial work daily?—That is when they are nuns.

14486. Yes, and senior pupils who desire to go off to any other branch?—They have to get exemption in all those cases.

14487. But it is possible to get it?—It is now, but one time it was very difficult.

14488. Am I right in saying that your experience is that the alternative literary and industrial scheme when adopted in convent schools was successful, but not equally so, or equally popular in ordinary schools?—It was more successful in convent schools, and certainly is where they still hold to it.

14489. I believe you said that one difficulty about the extension of the kindergarten system was the fact that the separate room for kindergarten was obligatory?—Yes, a separate room for the infant department and kindergarten is only recognised in the infant department or school.

14490. You referred also to special desks, surely those are not necessary?—Not at all, but it is thought they are; my view is that an ordinary desk, if painted with little squares, would do.

14491. Well, strictly speaking, kindergarten might be taught at home without any reference to a special room?—Certainly. I think we want to get analogous exercises for the upper classes suitable to the strength and age of the children.

14492. You expressed your opinion that agriculture as taught from books without any instruction in the practice of it was of use?—Certainly, if the pupils are already acquainted with the subject matter, because it gives them the scientific aspect of the question.

14493. In your district here you have got special agricultural schools—Mullinahone, Clonsilla, Woodstock, and Inistioge?—Yes, one school garden; there are three model farms.

14494. Besides Inistioge there is Woodstock?—Inistioge is the name of the school and the village, Woodstock is the name of the demesne.

14495. Is it not called the Woodstock agricultural school?—That is a different one, that is a model farm. The model farms are Woodstock, one in Ring, Mullinahone, and Clonsilla.

14496. Are there ordinary literary schools in connection with those schools?—There are.

14497. Is it found that the instruction in agriculture interferes with the literary work of the pupils?—It does not, the schools are, I don't think, either better or worse than they would be without them.

14498. In the three other schools, where there are only school gardens, is the literary work at all interfered with?—It is not.

14499. You mentioned that special teachers were sent from Kildare street, in corkery; of course you understand that they were sent by the National Board?—I understand they were paid by the National Board, and result fees paid by the National Board.

14500. They simply had been trained in connection with the instruction in Kildare street?—Yes.

14501. And the National Board select the places to which they may be sent?—Yes, a scheme is prepared for a number of schools, and this teacher generally endeavours to have two or three, or half a dozen schools going on at one, and goes from one to another. At the Mooncoin convent they applied for a teacher the other day and could not get one.

14502. The last subject I have to ask you about is that very interesting school at Ring, where the master is very highly qualified, teaches an ordinary National school and carried on instruction in handicraft or manual work, and also farms; you have inspected the school, have you?—Yes.

14503. Did you find the literary work very efficient; is he a highly classed teacher?—Yes, I am not quite sure whether he is First of 2nd, or Second of 1st; he is pretty highly classed; the school was very fairly on, considering it is a very remote school and in an isolated

peninsula, and the children, I suppose, don't attend very regularly.

14504. Might I ask how he contrives within the school day to give instruction in literary work, farming work, and manual work?—He has an assistant teacher.

14505. Has he extended the ordinary school hours?—Not much; they can be at the farm work for three hours on Saturday now, I think he has the handicraft in the morning before school hours.

14506. And has he conveyed to you that the children take great interest in these extra branches?—He has stated distinctly there was no subject they were so eager for or took such delight in.

14507. Captain SHAW.—Do you find there is any difference in the literary efficiency of the girls and boys, age for age?—Well, abstractly no, but if you take particular cases there are.

14508. I mean as a general rule?—I don't like to say there is.

14509. Don't the girls have six hours in the week sewing, while the boys have no corresponding occupation?—No, they have only five hours, of course if you take the boys and girls in the same school, the boys have agriculture while the girls have needlework, and the boys have a very difficult programme in arithmetic, and often learn geometry and algebra, so the work is about equal.

14510. Do you consider an hour a day too much for needlework for girls?—I think it is too much for the second class who have only to learn hemming and knitting, I think half an hour would be enough for second and third class.

14511. CHAIRMAN.—They are quite small girls?—Eight years of age.

14512. Captain SHAW.—Is there any difficulty in providing needlework for so many hours?—Practically now there is not, material has become so cheap, and the Board have such supplies on their lists, and they can get materials in shape, so that I think there is not now such difficulty in ordinary needlework as there used to be. At some seasons of the year you might find materials scarce, but now they work up materials so, they can work on a scrap of cloth the size of a sheet of paper, crowding up a lot of lines with stitches on it.

14513. Could they not get it into a smaller time?—When they sit down and give out the work, it is a tedious business, I think for the upper classes an hour in the day is not too much, considering the time lost in giving it out, I think an hour in the day would do very well.

14514. Rev. Dr. WINTON.—When you said that needlework had been given up by many of the schools, I suppose you meant the two hours?—I did not say that needlework was given up, surely; I meant the industrial scheme of needlework for sixth class, the second hour, not the first.

14515. Is it kept up for one hour?—Must be.

14516. As regards book teaching of agriculture I quite agree with you that it is most useful for boys that are drawn from the farming classes?—Yes, and those who know what they are talking about.

14517. As to cookery, would you think it a great advantage if that was extended much more widely?—I would indeed think it a very great advantage; I think it is very badly done, and I think it would be very useful to have it well done; it would make workmen and labourers avoid the public-house a good deal, I would like to see good cookery of plain food extended very much.

14518. And if the Board were to do more in that direction you think it would be of great advantage? I do indeed, and I think it could be done in the ordinary schools in a simple way. I had an idea that without much expense a teacher might cook a simple plain dish, say for himself, on the ordinary school fire,

the girls could take notes when she gave the instruction, and the next day she could ask one of these to cook the same from the notes, the others observing and correcting, so that it does not require any very elaborate machinery.

14519. Is there instruction given in laundrying in any of the schools under you?—I have not come across that at all.

14520. Do you think that important?—It would of course, but somehow or other I don't think it is as important generally as the cooking. There are laundries for doing up clothes here, and in nearly all the towns.

14521. In the towns, but not in the country?—In the country places they do washing very well, they have the hedges for airing, but cooking is universal, it has to be done everywhere.

14522. In regard to the proposal for lessening the time for grammar and geography, do you agree with that?—In second and third classes I would leave it optional, and do it a good deal by well-written lessons in ordinary reading books, which should be prepared by first class teachers, and would be better than the instructions given by third-class teachers. In the senior classes I would not give up grammar and geography; it would injure schools if the fifth and sixth who remained to complete their education did not get grammar and geography, for schools would be starting up to supply those things, and they would injure the National Schools.

14523. Mr. REMONDON.—With reference to the teaching of cookery in small rural schools, how would the teachers get the materials, would there not be great difficulty?—Not in the way I speak of, the teacher would always have to cook for himself, if it was only in the way of boiling or poaching eggs, if it were only a heating, the simplest dish. The cookery they did at the Ursuline Convent and the Model School, they did very nicely without burning it or blackening it.

14524. How would you get the ordinary teachers taught cookery?—They could easily learn that, teachers could go around to give lectures in the towns, or hold classes on Saturdays, and the country teachers could come in to them, for instance, here and in Dungannon and New Moss, the teachers within a circle could come in.

14525. You look forward to the ordinary school teacher as the permanent teacher of cookery?—Oh, yes.

14526. You look on the present instruction we send round as temporary?—Yes, introductory.

14527. As regards kindergarten, do I understand you to say that kindergarten could be well taught in all schools, even where there is only one room?—I think so.

14528. Is it merely the regulations that prevent it being taught?—The teachers would need to be able to teach it.

14529. At present they are not paid the results fee unless there is an organized infants' department; if that rule was abolished, would it be well taught?—It might not be quite so accurately taught, as where there was a separate room, but it would be taught to a considerable extent.

14530. It would not interfere with the work of their classes?—I don't think it would, that is where you had a second teacher, or a good mistress. Of course if you had a second teacher it would not interfere at all; if you had a good mistress in third or fourth year, if trained in a school where it had been taught, she would know a good deal about it, and in a couple of years would be able to take the teacher's place.

14531. I think you had something to say about the certificates for kindergarten teaching?—Yes, I think that every teacher should know the principles of kindergarten, that is, the real principles that under-

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Be it, which are the development of the faculties and members by exercise, and making use of the child's natural curiosity, and the inquiries it will make to obtain knowledge—those are the real points.

14552. Mr. Mowbray.—And male teachers as well as female teachers?—Yes, every teacher should, I hold, because at present the fact of teaching is the main point; whereas the fact of development should be the main point.

14553. Mr. Ramsdore.—How would you provide for the instruction of teachers who don't know how to teach kindergarten?—The training colleges now will enable all who pass through them to learn it, and those who have already passed through could come into the convent schools on Saturdays, and there could generally be a teacher found there who would teach the teachers, at least I mean in this part of the country, in other parts of the country you will generally find some good teacher of a large school.

14554. Then as regards drawing, how would you extend the knowledge of drawing among the teachers?—Somewhat similarly, the training colleges, of course, will teach the new teachers, and here, in Waterford, there is an art school where the teachers could come in on Saturdays.

14555. Would they come in?—I think they would. I may say, however, that drawing is not taught to the extent to which it ought to be; there are fourteen teachers here who have certificates who don't teach drawing.

14556. Would you make them teach drawing or forfeit their certificate?—I think it would be well, but the difficulty is that it is not commenced early enough. It is commenced in 3rd class, if it was commenced in 1st class, teachers would take it up.

14557. CHAIRMAN.—Who decides whether drawing is to be taught, the teacher or the manager?—Well, theoretically, the manager, but practically it is the teacher. Unless the manager is very resolute and energetic, and makes it a *sine qua non*, which he seldom does, the teacher generally succeeds in teaching it, or not, as he pleases.

14558. Teaching what he likes?—Not what he likes—the rules of the Board are there.

14559. Yes, but I mean of the optional subjects?—He generally can, but if a manager applies for a teacher who can teach drawing, and takes him on that understanding, and makes it a condition that he should teach it; then, of course, he should do so.

14560. Mr. Ramsdore.—Would it be equally feasible to get the teachers to learn the principles of science?—I think they should learn the principles of science in training colleges.

14561. I am talking of teachers who are already in charge of schools?—If they came into the Training College here on Saturdays—I don't know whether they could find time for them or not—possibly in the vacation they might bring them in, of course about Belfast there would be no difficulty at all.

14562. If it was determined to make the teaching of elementary science and drawing compulsory in all schools, and a certain number of years were laid down as the limit within which it should be introduced, do you think there would be any great difficulty in the way of teachers learning how to teach these subjects?—I am sure there would not; teachers know a lot of geometry and could learn geometrical drawing very easily, and elementary mechanics, I am sure they would soon pick it up.

14563. They would require some help, I suppose from books?—They would require, in teaching it, of course, little manuals. I should say, with regard to agriculture, I think experiments in chemistry should be taught to sixth class boys, such as are in "Johnson's Outlines of Agricultural Chemistry," and "Hodge's Principles of Agricultural Chemistry."

14564. I believe there are many books that treat of elementary physics?—There are plenty, some very nice little books, and for wood construction there is a very nice little book by George St. John,* showing the different sort of joints. Then there is a very nice little book on "Practical Physics," by Lomax (George Gill & Sons, London), and on "Physical Measurements and Experimental Mechanics," by Weeden (George Gill & Sons, London), and if you take the syllabus of the Science and Art Department, there are three branches there, the experiments very fully gone into, and very nice experiments; there is one on Alternative Chemistry, and one on Physiography, and one on Agriculture, those are very good experiments.

14565. Supposing the teacher was able to teach, and it was made compulsory, would there be any such great expense in getting apparatus to teach chemistry and sciences?—There would be some, but not great.

14566. That would be no serious obstacle?—I don't think it should be.

14567. Supposing any new subjects were made compulsory, and you were asked what subjects you would exclude from the present compulsory curriculum, what answer would you give?—I would modify the present programme a great deal, I would omit oral spelling altogether, I would teach spelling by writing, as it is always used; no one has to spell orally that I know; writing is the counterpart of reading; I would teach writing and spelling altogether by transcription, and examine it in the same way.

14568. CHAIRMAN.—You give spelling as a thing you would exclude in favour of manual work. Spelling is taught, of course, at the very beginning of the education of a child; some of these things that are proposed to be taken in would be taught at the end?—The point is that time would be saved by economising the energies of the child and of his teacher in these junior classes, and they would have more time to spare for the upper classes; the teacher would have more time to spare, and the pupil also.

14569. Then is there any other modification you would make?—Well, there is a loss of time in writing, the first class learn to write on slates, the second class write on paper, going back to books. I would have the second class write with lead pencil, and I would introduce the pen in the third class. The first class can often write well on slates, but when they go to the second class they are put back to make strokes with pen and ink, and go back to books and letters, and learn writing *de novo*.

14570. CHAIRMAN.—Do they spend much time over that?—Yes.

14571. What is to prevent a child, after a day or two, taking up his writing at the point at which he left off on the slate?—A great deal, the usage of the pen, which is quite different has to be learned. Then grammar or geography might be optional in third and fourth classes, and might be taught by lessons in the reading books. I would have those lessons from the second up in the reading books, and in the geography in the other classes. I would have fewer facts and figures. In fact geographies now are bristling with facts and figures, most repulsive books they are.

14572. Mr. Ramsdore.—Is it your opinion that too many optional subjects are taken up at present? I mean to say that instead of those optional subjects that are now taken up some practical branches could be taught—for instance, I see in one time-table provision for five optional subjects.

14573. Do you approve of that?—Well, this teacher manages to do the work well, and the time-table is 8.30 to 3, and I have another time-table for six optional subjects, from 10 to 3 in an excellent

* *Manual Instruction—Woodwork*, by George St. John (Edinburgh).

school; one of your new subjects could take the place of those.

14555. Tell me the names of the six optional subjects?—Book-keeping, singing, drawing, geometry, algebra, and botany, and well taught, too.

14556. Is that geometry and mensuration?—Yes.

14557. I think you have an opinion that mensuration ought to be separated from geometry?—Certainly; and the rules of mensuration can be explained without geometry; there is a nice book on the Board's list—"Clairaut's Elements of Geometry"—which explains the thing very nicely to boys.

14558. That teacher whose time-table you are quoting has taken up some of the subjects we are discussing?—Yes.

14559. Could any time be gained on Saturdays?—Yes, I think so. I don't see why 10 to 12 could not be taken on Saturdays; it used to be.

14560. Would it count as a school-day?—Yes, it used to be, it has been dropped out of late years.

14561. They can now have the agricultural instruction on Saturday?—Yes, they have that in Woodstock.

14562. I suppose you would make the Saturday instruction optional?—I think there would be no great hardship in making 10 to 12 compulsory, of course the subjects taught would be paid for also. As a matter of fact, the hours are jealously extended now in some of the places, at least for some months before the results examination they are kept as late in many places.

MR. GEORGE H. EMMIS, M.A., T.C.D., Head Master, Drogheda School, Waterford, examined.

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Dr. J. B. Siskington.

14570. CHAIRMAN.—You are the Head Master of the Drogheda School, Waterford?—Yes, my lord.

14571. Will you give us your views upon the subject of woodwork, metal work, bookbinding, and horticulture, and in rural districts of agriculture and bookmaking?—I just wish to confine my remarks to agriculture, horticulture, and woodwork. I think it very desirable that some means should be adopted of introducing a practical method of woodwork amongst all boys who are attending National Schools, and in general of fourteen or thirteen years of age, or say twelve. I have frequently, myself, heard parents complain that their children are not capable of doing the smallest piece of work about the house, and I think if these subjects could be introduced into elementary schools it would be very desirable.

14572. Taking thirteen as your minimum age, what class in the National School would that correspond with?—I am not quite sure, I am not in touch with National School working.

14573. In England they don't begin manual work until the fifth standard?—I know a little more of the English than of the Irish; but I think twelve years of age would be the most suitable time and age for handicraft.

14574. Mr. MONTAGU.—That corresponds to our fifth standard?—It would be more or less a loss of time to take boys below twelve, and give them tools to work with at anything as woodwork or ironwork.

14575. What do you say with regard to horticulture?—I am greatly interested in horticulture, I would like to see attached to each school a small plot of ground for the purpose of the production of flowers and vegetables, particularly for vegetables, you meet so many boys even in country districts who are utterly unacquainted with the simplest vegetables and their mode of production. For instance, lettuce, it is almost unknown in some parts of the country, and other things of that kind. Well, if we had competent teachers, itinerant teachers in country districts to give a few lectures in a month on these things it would be extremely useful.

14576. Have you ever turned your attention to what was suggested by Brother Thomas just now, that

14563. Longer than from 10 to 31—Oh, yes, the hours in this part of the country are very often to 3.30, and in some places in summer to 4.30.

14564. Do you think school farms, as opposed to school gardens, are to be encouraged?—No, I don't think so at all, the school-master cannot teach the farmer his business, and school masters who have farms admit that that is so; they can teach the theory of the subject, the reasons for it, and the scientific aspects, but they cannot go in and work a farm, it would require too much of the time of the teacher to work a farm as a farmer would.

14565. But you are in favour of school gardens?—Certainly.

14566. What is the smallest size of a school garden that you would recommend?—I think half a rood might be made a garden.

14567. Mr. MONTAGU.—Have you worked out any scheme by which the kindergarten could be carried on to the higher classes?—I have thought over it a little, I have a graduated scheme here, but probably it would not stand examination.

14568. Perhaps you would hand it into the Secretary. (Schoolmaster in.) Apropos of your statement that you would standardise real spelling, would you extend that statement to the junior students?—Not to the infants who cannot write.

14569. Mr. HANCOCK.—Do you think in small schools there ought to be fewer classes?—Certainly, I do, where a man has only forty pupils and ten classes it is very difficult. They should be grouped densely; they have a grouping system in England.

there should be what might be called continuation agricultural schools in the districts, to which children should go after leaving school?—I think so, certainly, because pupils often leave school at fourteen or fifteen and attend lectures after they leave school in a matter very easily accomplished, and the teachers themselves could come a distance of three or four miles to attend weekly or fortnightly lectures on these subjects.

14577. But I think his suggestion was that they should come in not to attend lectures at intervals, but that they should go to the agricultural school to attend lectures every day for a year?—That would be desirable, if it were at all feasible.

14578. Of course, that is a matter of money?—Yes, and a question whether the ordinary farmer in Ireland could afford to send a boy of fifteen years of age to an agricultural school, and spare him from the labour of the farm. Beyond the attendance at lectures I don't think anything could be done. In large centres of course agricultural schools could be founded and carried on as such, with resident pupils, such as there are many of on the continent, with a large number of students attending them.

14579. Have you visited any of the continental agricultural schools?—It is some years since I saw some of the workings of those schools, but it was limited to Switzerland, and was not so much agricultural as wood work and carving and a little metal work, and I was struck with the interest taken by the pupils in those schools. The work they turned out was in some cases extraordinary, they seemed to have an interest in the work which you don't see developed in Irish rural districts at all, not the same interest, the same enthusiasm.

14580. Do you wish to say anything on the subject of bookbinding and lace-making?—Well, I have seen some lace making in England in rural parts of Devonshire, and I was told that it was exceedingly profitable, but it was mostly done as a home industry, not done at school, one learned from another and so on. And considering the simplicity of it, as far as I could see, if it were introduced as a subject for school work in Ireland, it would be very desirable and profitable.

Mr. George H. Emmis, M.A.

Waterford,
Nov. 25, 1887.
Mr. George H.
Eadie, U.S.A.

14581. Rev. Dr. EVANS.—How long are you in the Diocesan School?—A little over seven years, of course it is a middle class school.

14582. Have you any of this industrial work in connection with that school?—Well, I have not, as part of the school curriculum, but I, myself, personally am so interested in wood-work that I have a few of my pupils who come over to the school-room to me after hours of their own free will, but by the wish of their parents, to do a little work with me, whilst I am working, but further than that it is no part of the school routine.

14583. So far as you know, is there any of this manual work in connection with any school of the same class as the school you have charge of?—Yes, there is the Newtown School in Waterford, managed by the Society of Friends, and there they have gone to very great expense in providing apparatus for handicraft manual work, and the boys there do a great deal. I have seen some of it, it is very good; they spend a good deal of their recreation hours at it.

14584. Who gives the manual instruction there?—Is it the regular teacher or a special teacher?—I believe they have skilled men visiting there from the town.

14585. CHAIRMAN.—What they call artisans?—Yes, they do woodwork, and basket-making, and ironwork, and turning, and carving, and I believe that the teachers attend there from the town; the masters do some, but I don't think they do all.

14586. Rev. Dr. EVANS.—Does the programme of your school run pretty much on all fours with the National School programme?—No, it does not, the work of the school is partly Intermediate and partly University work.

14587. I suppose you send pupils to the Intermediate examinations?—I send pupils in every year, but not very many, sometimes as few as five, sometimes about 10; it is not popular in the Diocesan School.

14588. Does your work differ much from the course in Bishop Foy's school?—Bishop Foy's is more elementary; there are no classics or French taught in Bishop Foy's school.

14589. And they have no manual work there?—No, not so far as I am acquainted with it.

14590. K. M. MOLLOY.—Is not your school rather a preparatory school for Trinity College?—It is.

14591. It was started mainly with that view?—I think so, because the work done there has been always more or less on University lines—narration for various Universities.

14592. The school was formerly taught by Mr. Valentine?—Yes, some years ago.

14593. Have you Physical Science taught there?—No, not exactly Physical Science; we take up Natural Philosophy.

14594. Is that taught theoretically. Have you any laboratory of any kind?—I have, if necessary; but I don't make the practical part continuous.

14595. Mechanics, of course, would form part of the instruction?—Elementary mechanics.

14596. Not merely from books?—We teach mechanics altogether from books.

14597. I see you recommend that in rural National schools agriculture and lace-making should be taught—how do you introduce lace-making?—At the present time lace-making is altogether confined to the convents of the country, where they do excellent work. There could be a union of the two by the attendance at lectures by nuns in the district, if that were possible and at all feasible, because they seem to have a monopoly of the lace teaching.

14598. That pupils of rural schools would attend instructions in convents?—Yes; let the nuns teach the subject.

14599. Had you any special object in selecting lace-making, which requires special manipulation?—To a certain extent, I would be opposed to the system of itinerant teaching, if a permanent teacher for a district could be secured.

14600. But as regards the subject itself, you prefer lace-making rather than any other subject?—I think so.

14601. Have you any special reason for that?—No. I think what Dr. Shillingford said about cookery was very desirable, but that is so prominent I did not mention that.

14602. You would not confine it to lace-making?—No.

14603. Rev. Dr. WILSON.—You have been in Switzerland?—I have, on a visit of six or seven weeks, during which time I tried to see what I could of the educational system.

14604. What kind of woodwork did you see there?—Chiefly carving of figures and of animals for the English markets and for tourists.

14605. Was this taught in the public schools?—It was, and also more advanced woodwork for the advanced pupils.

14606. Did you see any metalwork?—No, not much metal work. I visited a woodwork school at Bern, and the system there was very good; they had different rooms for different grades of proficiency in the woodwork, and a large staff of teachers, and the work turned out was very good indeed; between side of the work and the pupils' fees, which were very small, it made nearly a third of the whole expense.

14607. Is it your opinion that it would be expedient to introduce something of that sort in connection with our National system?—I think so, in largely populated districts, it would not be practicable in districts where the population is not large, but in the immediate vicinity of our large cities, and in the cities themselves, it would be highly desirable to found such schools as these.

14608. As far as you know is the teaching in wood by the Society of Friends popular with the pupils?—It is very popular with the pupils, and I am well aware that many of the pupils spend their whole recreation time in the workshops.

14609. CHAIRMAN.—How many pupils are there there?—I think there are about thirty-five resident, sometimes I think forty.

14610. Is it a school where they board?—It was, formerly, altogether for resident pupils, a boarding school, but I think within the last twelve months they have opened it to all comers.

14611. Mr. REMINGTON.—Do you know what kind of woodwork they do in the Friends' School here?—All kinds of fancy work; they do board building and make boxes.

14612. Do they follow any of the systems in operation in some of the large board schools in England?—No; I think they allow each boy to go more or less according to his own taste, and the work is supervised.

14613. They have not a graduated system of lessons?—No.

14614. CHAIRMAN.—This is not a primary school at all, but a secondary school?—It is a secondary school. If a boy wishes to take up a certain article of woodwork or ironwork he has permission.

14615. Mr. REMINGTON.—Are you acquainted with the systems in operation in Liverpool or Birmingham?—I am not.

14616. You cannot compare them, therefore, with the Swiss system?—No.

14617. CHAIRMAN.—Perhaps you are not aware that there is a difference between what they do in Liverpool and Birmingham, in woodwork; in Birmingham they don't complete any article, they make joints, but not a whole box, but in Liverpool that is not so; I think the work ought to be limited to that.

14618. Mr. REMINGTON.—What makes the Swiss take such an interest in this woodwork?—I think they find it profitable, because they can dispose of all their work there at remunerative prices.

14619. Mr. MOLLOY.—And the facility for getting material?—And the facility for getting material.

14620. CHAIRMAN.—Therefore it is learned more as a trade than for educational purposes?—Eventually

you may say it is for trade purposes, because the pupils at school get a taste for a particular branch of handicraft, then there is no difficulty on the part of the parent in putting his boy to a trade, because he knows what he has a taste for, and will succeed at.

Here you put a boy to be a carpenter, and probably after twelve months he gives it up, and goes to something else, as he has not a taste for it, and at the present time large sums of money are thrown away in apprentice fees.

Waterford.
Sept. 22, 1892.
Mr. George R.
Cox, M.A.

Mr. EDWARD LINDERS, Teacher, Coolnamore National School, Dungarvan, examined.

14621. CHAIRMAN.—You are teacher of the Coolnamore National School in the county Waterford?—I am.

the conditions of life in the locality that supplies the school. If I want to add something, the children tell me "I must go home, I have to see after the sheep," or something.

Mr. Edward
Linders.

14622. Is that a rural school?—A rural school.

14623. What number of pupils have you?—Well, 106 on the rolls at present.

14624. Boys and girls?—Boys only.

14625. You have an assistant?—No.

14626. Mr. BARRINGTON.—What is the average attendance at your school?—Year in and year out, it would be perhaps fifty-four or fifty-five; for this year it is fifty-six, but some quarters I will have seventy or eighty for two successive quarters, and then for two quarters it is down. I managed to keep an assistant only for two years, and that is all.

14627. Mr. MONTAGU.—Why don't you apply for an assistant when you get two consecutive quarters with the required numbers?—I don't think I could manage that, if I had the average on alternate quarters I could retain the services of an assistant.

14628. CHAIRMAN.—You have given some attention to the question of manual instruction in rural National schools; do you confine what you say to rural National schools?—My experience is rural, but I would have no objection to give my opinion with regard to schools in large centres.

14629. Have you derived your views from reading principally; or have you seen any manual work?—I worked at a trade, served my time to the business. I am a lot of an amateur carpenter, and have a portable forge and turning lathe of my own. I used to do more at it in my earlier days than now. I was in the training college in 1883, and it was fostered, nurtured by one of the professors that probably this thing would be introduced in the near future. I tried it after coming home and it was only a partial success. I was a bit enthusiastic then, more than I am at present. I made a little gallery, and afterwards a convertible gallery; it lifts up when I want to use it as an ordinary bench, and drops down when I want to use it as a gallery. I did a little school work that way and tried the young chaps at it, and perhaps it was one out of ten I got to cure for it. I had to do the work in play hour or after school.

14630. How long do you persevere trying to teach it?—I don't think it continued for a year, perhaps six months, not continuous. I got ordinary palming round the school plots, got them to help me making it, and then I gave it up. I had my own opinion. Perhaps these boys work six hours at present, I have not six per cent. of my pupils children of artisans or labourers; they are the children of exceedingly small farmers, and have to work at home.

14631. You mean besides doing literary work at school they have to work at home?—Yes. Children of my ten, often work six hours a day at home.

14632. Mr. BARRINGTON.—By work, do you mean driving cattle?—That is, for some, but according to the season, they used potatoes, mangolds, and turnips, and attend to crops, and do carting, and follow donkeys or perhaps jennets, and do the ordinary farm work; there is practically no paid labour in my district.

14633. CHAIRMAN.—Is that, do you think, common in the South of Ireland?—Not to the same extent as in my particular district, but it is pretty general.

14634. Apart from that special reason, what would be your views on manual work?—The ordinary school programme at present is too heavy; I could not make room for it at present, even if I could teach it successfully, and if the children took to it kindly, I could not possibly make room for it, on account of

14635. Mr. BARRINGTON.—Why did you leave it?—My health broke down.

14636. CHAIRMAN.—You put down as one reason why it is not taught "the inability of the majority of teachers to impart such manual instruction as would be likely to prove useful?"—Out of 106 men in 1883 in the class, I believe there were only about four that came away with any useful knowledge of it.

14637. Was that because they were incapable of learning?—I don't think the taste existed. I don't mean to say it was through want of ability.

14638. You think that another reason is that the destination of pupils in rural schools is mainly agricultural and not very often mechanical?—Yes.

14639. That would be a good reason where it was a question of teaching a trade; do you think that would be an advantage to a boy in a rural district who was only going to agricultural work, that he should know how to mend a window or a door?—There is no farm on which there is not plenty of occupation for a skilled agriculturalist, and I think he would be better employed at effecting these improvements and working the business he was brought up at and paying an ordinary carpenter for mending work. He can get him for 2s. a day.

14640. You think it would be better to pay the 2s. a day to the carpenter than to do the work himself?—Yes, in a place where there is plenty of work to be done in fencing and draining, at least in my locality.

14641. Do the farmers in your locality work from morning to night, or take things easily?—They are, perhaps, the most industrious class of farmers in Ireland, as I had occasion to mention to their landlord not many years ago, they work perhaps sixteen hours a day in certain seasons, and from light to dark on short days.

14642. You have some remarks to make on the

Waterford.
Sept. 25, 1886.
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Mr. Edward
Lambert.

subject of agriculture with regard to the method of inspection!—My own personal experience is that I think the cause for the general break down, as is sometimes expressed, in the teaching of agriculture in National Schools is not attributable to the teaching of it. I reason like this, I have had an opportunity like every country-seated young man of observing agricultural operations since I was able to discern what they were doing at every season of the year, I had a fairly good taste for it, I went up to Glasnevin, and served my time there and acquired a certain knowledge of it. I farmed three acres of land myself for nineteen years, gardening; I grew the different kinds of vegetables, although not in connection with the Board—celery, parsnips, onions, rhubarb, parsley, and so on, and followed the usual course of sowing the soil, and still, with all that acquired knowledge, an inspector comes round and examines my school and gives me 10 per cent. of passes in agriculture, next year he comes round and gives me 50.

14444. Mr. MOLLOY.—The same inspector!—Yes. Well, I say there must be something wrong. I often put the question to myself, can it be possible that I am entirely at fault or those children?

14447. Not with 80 per cent. higher!—It is a difference of 70 per cent. I never can work out the problem what does it arise from. The question arose a while ago that I would not be a teacher if I could be a farmer. I have a decided taste, I think, myself—if I know myself—for farming, yet I am a teacher of my present school for the last nineteen years.

14448. Mr. RUSSELL.—What is your explanation of the difference between the verdicts of the Inspector on those two occasions?—It is a very human and natural one that I was not entirely at fault.

14449. Rev. Dr. EVANS.—You were trained in 1880?—In 1882 and 1883.

14450. That is one year's training; you were a teacher before and you can only speak from the experience of one year's training, of what is done in the manual instruction in Marlborough-street!—That is all.

14451. Were the other men of 1882 in for one or two year's training?—One, there was no such thing as two year's training at the time except in the case of what they called a special class, twelve selected teachers.

14452. You are forming your opinion of the work done there from the experience of one year's training!—But I had a lot of experience in handicraft—manual work—before ever I went there.

14453. The question is not as to your own attainments at all, but as to what your experience would lead you to believe they can do in the way of training people in this manual work in Marlborough-street. Would young men there for two years not be able to acquire some information and some capacity?—Unless in the case of young men having a very decided taste for it I don't think so, it is only an hour a week in the first place.

14454. Don't you think two years' training would equip them better than one?—Another year's extension of time, with more than half the number that were there in my time, would not make the slightest difference to them, or three, considering their want of interest in the subject.

14455. Do the reports on your school show satisfactory results in the other subjects?—Yes, as, in drawing, for instance. I teach drawing, and I can tell within one per cent. the number of passes I will get; I won't vary two per cent. from the Inspector. I won't vary two-and-a-half to five per cent. in any of the other subjects.

14456. CHAIRMAN.—Except agriculture!—Except agriculture.

14457. What test does the Inspector apply in his examination of agriculture?—It is a thing I don't care to enter much upon; I think, at the same time, the questions are rather scientific; they would imply a knowledge of elementary science, elementary chemistry, such as explaining how the lactometer, in

conjunction with the hydrometer, would enable a farmer to judge of the quality of his milk. I think the application of the hydrometer to the testing of anything implies a knowledge of elementary science.

14458. Rev. Dr. EVANS.—Do you think it is possible generally to teach all the subjects that you teach?—I teach the ordinary subjects with a few extra—drawing, algebra, and geometry.

14459. Does the teaching of agriculture which you give, interfere with the proficiency of your pupils in other subjects?—It interferes to this extent that, having the uncertainty on my mind of how these pupils will acquit themselves from the uncertainty of the examination, I have to cox them in half an hour extra in the morning, and actually add to the time for giving instruction in the morning in the time table, add 30 per cent. for certain parts of the year; it interferes to that extent.

14460. Mr. MOLLOY.—What is the time that you devote, according to your time table, to agriculture? An hour on three days of the week, but it was three-quarters of an hour formerly.

14461. Do you ever bring your boys out to your three acre farm?—Very frequently.

14462. Why would you not connect that with the Board?—The question arose last year, but the patron of the school, Sir Richard Musgrave, was away travelling in America or British Columbia, and the agent did not wish to move.

14463. Kindly mention the post town of your school?—Droghda, four miles to the north.

14464. You have 105 on your rolls, but only fifty-four in attendance?—I won't be certain to one or two, fifty-four or fifty-five. I have not thirty in attendance at present.

14465. How do you account for that low attendance?—From the middle of August until the 1st of November every boy over ten years of age is employed at farm work; a great many under ten will stay away because their grown brothers are not attending. I might have the senior half of the school closed. And from Patrick's Day, when the spring work begins, to the middle of May, it is in like manner. I have a good attendance in May, June, July, and August.

14466. Would you say manual work was unsuitable for town schools?—Certainly not.

14467. And in connection with the rural schools, do you think that some elementary science bearing on the processes of agriculture ought to be introduced?—I think so.

14468. You mentioned that the Board's present course is top-heavy. You would not advocate the propriety of having grammar and geography in second class?—No, I would rather cut it out in third.

14469. Is drawing to scale taught in your school?—I was taught it myself by an uncertificated teacher, but I do not teach it much, except to monitor and boys who learn geometry.

14470. Is mensuration taught as a special subject?—I did teach it when specially requested by a few parents, but I teach it in connection with geometry.

14471. And the first thirty-two propositions of the first book?—Yes.

14472. Captain SELWY.—Do I understand you to say that it would be an improvement to the teaching of agriculture if it was preceded by the teaching of elementary science?—I do, decidedly; elementary chemistry, and what you may call a general course of elementary science.

14473. Do you think you would have room for that as well as agriculture as now taught?—Not according to the present arrangement of the programme.

14474. You think the present programme should be modified?—To make room for more. In a great many rural schools you may have seventy in attendance in the first half of your result year, and in the second half you may have forty only.

14475. Do you think it is necessary to cultivate the power of observation of children by any special instruction, which they don't get now?—I think there

would be nothing that could be more desirable: that is one of the chief objects of education.

14674. You think it is fully accomplished under the present system?—Not so fully as it might be.

14675. In the instruction which you gave in handicraft you tried apparently to get the boys at once to come and help you in advanced work?—Certainly not.

14676. Did you show them how to use tools before you commenced to make patterns?—Not very systematically; I made experiments to satisfy myself could I manage to take it up as an extra subject, because it had been intimated by one of the Professors in the College that it was likely to be a subject in the near future. I went as far as to satisfy myself that I could take it up as a subject.

14679. Do you think the reason of the failure may have been that you did not take it up systematically?—I was not able to take it up systematically.

14680. Mr. REMONDOZ.—You say there would be no time for the introduction of manual work into the curriculum, it is already overloaded?—Not in the generality of rural schools.

14681. Why could you not exclude some of the extras you teach and substitute manual work?—I could come at it in other ways if they attended regularly.

14682. You at present teach drawing, algebra, and chemistry?—Algebra and chemistry are taught out of ordinary school hours.

14683. But whenever taught, you find it worth your while to teach algebra and chemistry out of school?—I do not find it worth my while.

14684. But you do it at any rate?—I do it in the case of monitors or prospective monitors—I say, "I will begin and lay out a little foundation for him, not leave it to the last day," but it does not pay me a penny a day.

14685. Five shillings a piece for each of them?—And in the case of two or three that is 15s. a year.

14686. You have, as it were, burdened your curriculum, very likely quite properly, with three extra subjects, at the same time you are saying the curriculum would not stand the introduction of one

extra subject?—I don't burden the ordinary school day except by drawing alone; the ordinary four hours, I only put one extra into that. I teach the others altogether outside school hours, and I would not teach them only in order to keep up the supply of monitors in the school.

14687. If instead of agriculture the sciences underlying agriculture were taught, that would not be any addition to the labour of the school?—No; I should desire it very much myself.

14688. I only point that out as a possible solution of the difficulty you brought before us?—I take more or less a utilitarian view of it; I say if you want to extend the programme you could do it more usefully in the case of country schools than with this wood-work or manual instruction, for children are using their hands for perhaps four hours before they come to school that day.

14689. You keep them at algebra and geometry?—That is not manual instruction.

14690. Would they not rather have manual instruction than algebra?—I think not; because they have perhaps had three or four hours' work before they come to school in the morning.

14691.—CHAIRMAN.—Manual work may be done without thinking what you are doing in an involuntary way, or it may be done in carrying out something you have thought out, like applying measurement?—Yes, sir; the body and mind re-act on each other; if you have a tired and worn out boy coming into school in the morning his mind will not be as active as that of the boy who has not gone through a certain amount of exhaustive work.

14692. Don't you think that a certain amount of physical work rather helps the mind?—Not where there is fatigue.

14693. CAPT. SHAW.—Do they work before they come to school?—Certainly. I have known boys when they went to their writing lessons to go off to sleep—children up at four in the morning—it is a grazing country, and there were sheep out on the mountain which they had to go after.

Witnessed
—
Sept. 28, 1897.
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Mr. Edward
London.

Lisieux.
—
Sept. 28, 1897.

THIRTY-THIRD PUBLIC SITTING.—THURSDAY, SEPTEMBER 30TH, 1897,

AT 12 O'CLOCK, NOON,

At the Christian Brothers' Schools, Lisieux.

Present.—The Right Hon. the EARL OF BIRMINGHAM, G.C.M.G., in the Chair, The Right Hon. C. T. REDDINGTON, M.A.; Rev. HENRY EVANS, D.D.; Rev. HAMILTON WILSON, D.D.; STANLEY HARRINGTON, Esq., B.A.; W. R. J. MOLLOY, Esq., and Captain T. E. SHAW,
with J. D. DALY, Esq., M.A., Secretary.

Rev. BROTHER GODART, Inspector in Woodwork, Christian Brothers' School, Lisieux, examined.

Rev. Brother
Godart.

14694. CHAIRMAN.—You are the instructor of woodwork in the Christian Brothers' School at Lisieux?—Yes, the educational instructor, of course, you see, we have an artisan.

14695. Will you tell us what, in your view, is the object of manual instruction?—I think the object is to give the boys a course of training of the eye and of the hand, and through the means of that course to make them handy. I think that is one of the objects. The more special object is through means of this training, to give them mental and moral habits, such as habits of close observation, close attention, of reflection, comparison, judgment, likewise to cultivate the taste, and also to cultivate to some extent the constructive faculty. I think these are the chief objects; these are those I aim at in the course.

14696. Will you give us an account of the course followed in this school?—The course consists of lessons and of models. The lessons begin with sawing, planing, and chiselling, and the remaining lessons are chiefly on different joints. Before being made they are

all carefully drawn to scale, then the models illustrate the lessons, and I find they cause great interest in the lessons: they are also drawn. The whole course comprises over 50 exercises. These exercises are brought gradually in from the first one mentioned to the last.

14697. Do you draw a distinction between exercises and exercises and models?—Yes, I consider an exercise the simplest, and then a lesson may contain several exercises, and the model is an application of the lesson.

14698. I was one of the Commissioners who went to Sweden, and also to Copenhagen, and we observed a difference in the two systems. In Sweden they began at once with the models, and what we call the exercises were only incidental to working out the models; whereas in Copenhagen they began by giving them lessons in the use of tools, sawing, simply as sawing, and planing as planing, before they began the models. What system do you carry out here?—The system of beginning with the lesson, and then, as the model is an application of the lesson, it should

Witness,
 J. H. Gage,
 Sep. 26, 1897.
 Rev. Brother
 Gage.

naturally follow, besides, the lesson is generally the most difficult exercise in the model, and when a boy has studied the lesson—acquired a knowledge of the lesson—he can with very little difficulty construct the model, so I think the natural course is from the lesson to the model.

14719. What distinction do you draw between manual instruction, technical instruction, and mere handicraft?—Manual instruction for a school, I think, should be, altogether, educational; from the explanation I have given of the course I consider it educational; I think it is highly educational. Technical education should, I think, be instruction upon the different sciences or different arts that underlie a trade, and might be necessary, so that an artisan should become an intelligent tradesman. And handicraft, I consider, is a course of work suitable, say, for laborers or farmers, who, in many cases, are little more than laborers; such as work in rough carpentry, or in glazing or painting, or cementing, or whitewashing, or distemper, or work of that kind. I consider them all useful. There should be classes to meet all these wants, but the ordinary school can meet only the first of these; that is, give them a course that is educational, and that would fit them, not for any particular trade or particular profession, but that would fit them for any trade or profession, by making them intelligent generally, and also with general intelligence of the hand, giving them a command over the use of the hands generally, but not any particular course of handicraft.

14720. What are the conditions of admission to the manual class?—The principal condition is, that they should have passed the 4th Standard, South Kensington, drawing; it is one of the conditions of connection with South Kensington in manual instruction, that there should be connection likewise in drawing. The place has been in connection with South Kensington for a dozen years or so in drawing, that is the Kensington course of seven standards, even before this was introduced. Some of these comprise three or four sections, different kinds of drawing, and when they passed the 4th Standard, that is, when they learned scale drawing, they are admissible then to the class. There is no condition of age, except if a child were very debilitated, or if he was unsuitable for him, he would be excluded.

14721. Is there any condition dependent upon the standard of literary education in the school?—No condition, but that they should be in the 4th standard of drawing, that is generally about the 4th standard of the ordinary literary course.

14722. Then have you boys in the manual class who are in the 4th standard of the literary class?—Yes.

14723. What age would they be?—They might be ten, or eleven, or twelve.

14724. You don't think ten is too young to begin in manual work?—Not for this work—because it is very light.

14725. Do you give them special tools or ordinary tools?—Ordinary tools of a small size, and there are two sizes even of the small-sized tools. Twelve have smaller tools than those for the second twelve, the bench, likewise, is lower for the smaller boys.

14726. What are the numbers under instruction at present, and what have been the numbers instructed since the commencement?—Twenty-four at present, and about fifty since the commencement.

14727. How many children are there altogether in the whole school?—About 200 or 190.

14728. That is about 10 per cent., rather more, at present under manual instruction?—Rather more.

14729. Do you anticipate that, as the younger children become older, they will pass into the manual class?—They are very anxious to pass into it.

14730. Is it optional, I suppose?—Quite optional.

14731. You think that any instruction of the kind, to be of use, should be optional?—No, I think it should be compulsory, in the same way as any ordinary subject, like reading or writing, for I think it to be as essential as those, or at least that it should rank with them as a necessary school subject.

14732. Do you think it should be optional in the

part of the teacher to teach manual instruction, or would you compel every teacher to learn the work, so as to be able to teach it?—I think it should be compulsory on them.

14733. What time is devoted to bench work and work in drawing respectively?—Two hours are devoted to both, 12 hours to bench work, and half-an-hour to drawing; but the plan we follow is that a boy works at the bench until he finishes the model or lesson he was engaged in, and then passes to the desk to draw the succeeding model or lesson.

14734. He does the bench work first, and then goes to the drawing?—Not exactly, but he passes from one to the other.

14735. On the same day?—No, he would make the drawing first, and then pass to the bench to construct what he had drawn.

14736. Would he do that on the same day?—He might not be able, he might draw it, and then be able partly to finish it.

14737. Do you find in practice, after a boy has been working, his hand is sufficiently steady for the drawing on the same day?—I never observed it had any bad effect.

14738. What do you observe to be the effect of the manual work on the literary progress of the children?—I think it serves it very much; it makes them attend better, so that they are here often to learn, and likewise it makes them intelligent and bright, and I think they do more for the time they are at it.

14739. How did you find time for the manual work—what alterations had you to make in the literary course?—No alteration; it diminished the time of a few subjects.

14740. What subjects were they?—It took a little off several subjects—at took a little off the arithmetic, some of the dictation, some off the grammar, and some of the geography, and the effect is not felt.

14741. That is, you shortened the classes?—Shortened the classes.

14742. What do you find to be the feelings of the parents and of the boys, respectively, towards the work?—The parents approve of it; they frequently ask to have the child educated to the class, even before it is possible for him to get into it, that is, before he has reached the standard. And, at the same time, I think there is a good deal of confusion of ideas about the thing with some parents. Some parents have an idea that it might be handicraft merely; some that it might be somewhat technical, but I think the intelligent parent understands pretty well that it is not one or the other, and, so far as I know, all approve of it. The boys too are fond of it, and to threaten to exclude anyone from the class is regarded as a punishment.

14743. Are all the children in this school drawn from the town, or from the country around?—From both town and country indiscriminately.

14744. Do you find any difficulty, such as was suggested to us yesterday by one of our witnesses, that children coming from the country have so much to do in the way of farm work, both before and after school hours, that there is a difficulty about taking up manual work from want of time, and also that the children are fatigued before they come to school, and on that account not able to take up manual work?—I never observed that they had the slightest difficulty, or heard it suggested.

14745. We had a witness yesterday who came to represent teachers in part of this county, who put that case before us very strongly, and said that he had attempted manual work in his school some years ago; he passed the course in Marlborough-street, and had attempted it for six months, but had given it up. You never heard of that?—I never heard of that. I never observed or heard the smallest objection on that head.

14746. Then you don't think that as universal through the county?—I think this teacher came from near Dingwall?—I cannot say. I never heard of it. Only one parent ever objected to the work here, and that was a parent who kept his child going on

occupies with dinner, so he really passed very little of his time in school; he did not understand the nature of the thing well but merely thought his boy had little or no time for it, as he had very little time even for the literary work.

14737. When we were in Sweden we had the evidence of Herr Salomon, who is Sloyd Director of the Skogsmann, where the teachers are trained; and he says he does not believe in teachers being paid to give instruction in matters in which they don't believe; and on that ground he very strongly advocates that both the teachers and the courses to be taught should be optional, which appears to be the case in Sweden, notwithstanding which it has developed enormously in that country.

14738. Do you think there is any force in that argument?—Well, I certainly think that the minds of the teachers should be educated in some way to appreciate the work, but I don't think it is a point upon which they should be the judges. I think the public should judge whether the thing is to be done or not, and then they, as servants of the public, should carry out the thing. It should be compulsory on them, but I certainly think they should be educated on the matter. I think their objection arises from the prevailing idea that manual instruction is either technical or mere handwork. I find that to be very common, and I think the same is the case with the teachers. I think it was fully put before them that the course was not in any sense either technical or mere handwork, but that it was as educational as reading or writing, or any other literary subject, that their minds would change.

14739. Do you think it would develop a taste on the part of the teachers, and enable them to give more attention to the matter, with a view of qualifying themselves for teaching?—I think it would be the only way to make them introduce the system, but at the same time I would not like that it should be thought to depend upon them.

14740. Now, have you anything to say upon the subject of elementary science in primary schools?—I certainly think it should be taught—the elements of the sciences—in all schools, even primary schools.

14741. Do you do anything of that sort in this school?—We do, and we did even more some years ago, when we had connection with South Kensington in science. We had classes in connection with South Kensington in various scientific subjects, such as electricity, magnetism, the principles of agriculture and phylography, but some years ago they changed the regulations under which we worked. They had an elementary stage, and in that there was a pass, 1st class and 2nd class. They used to pay for both, and encourage both, but then they did away with the 2nd class, or simpler pass, and increased the difficulty of the 1st class. The 2nd class pass was the sort of one that was most suitable for the children attending a primary school; it was the easiest and most suitable, and, on account of their changing the regulations, we found it impossible to work with any advantage with them. We keep up serious ourselves to a small extent.

14742. Do the children make any experiments themselves, or merely use those made by the teacher?—If they are exceedingly simple they make them themselves, such as very simple experiments in magnetism or electricity.

14743. I mean such things as weighing and measuring—do they do that themselves?—Well, although it might be better—no, it is done before them by the teacher. When I say that science should be taught in every primary school, I mean not to a very great extent, but only to such an extent as is included in a course of phylography—the elements of chemistry, and natural philosophy, and the technical forces.

14744. Rev. Dr. Witsdon.—You have an artizan in his hands the boys all the time they are under instruction here?—He is with the boys the whole time.

14745. Have you observed that in any case the

constructive faculty of the boys has been developed by work here?—I cannot say that I have observed examples of it, but it is the natural consequence of their constructing models from what they learn. The artizan is present with them here, but we are also present ourselves, so that the thing might be strictly educational.

14746. You provide the tools for them, don't you?—We do.

14747. Is there any particular place where the tools such as you write are procurable?—We get them from Dublin.

14748. You need smaller tools for the small boys? Not smaller than we have.

14749. But you have two sizes?—We have, but only with some of the tools—that is, the plane and the chisel and the tenon-saw, but even the larger size could well be used by the smallest boy.

14750. The boys only give half-an-hour to the bench work and half-an-hour to drawing; how often do they do that in the week?—I beg your pardon, they give an hour and a-half to the bench work and about half-an-hour to drawing, but there is no strict line drawn. They are here for two hours, and pass from one work to the other, but that is about the proportion of it, and only once in the week.

14751. Have you relays of boys. Are those we have seen here the only boys you have?—Those are the only boys, because the school would not give a second relay.

14752. I am pleased to hear you say that it has a good effect on the literary taste of the boys—we have uniformly found that to be the testimony—so we are de-moral that should be emphasized, as it may be an encouragement to those who fear the literary work may suffer. Your experience is that it has served literary subjects?—I think so.

14753. Then you are of opinion that the extension of this over the whole country would be of great value?—I think it would be of the greatest value, not only in the town schools, but country schools also.

14754. You think the Government would be making a wise expenditure of money in establishing such schools very extensively?—I think so. I think that of the time we devote to secular subjects, no two hours are more profitably spent than what we give to manual instruction.

14755. Rev. Dr. Evans.—Do you give any lessons in timber?—Certainly.

14756. The different kinds of timber?—Certainly. I am sorry I did not give a specimen of that before you; we have different specimens of wood below in the gym. The pupils are supposed to distinguish them by their appearance, to know their true characteristics, and likewise to know the purposes to which they are generally put.

14757. Do you give lectures or addresses on the uses of tools?—Certainly, they know not only the names of the tools, but the different parts and objects of the tools.

14758. And are they taught to set them?—They are.

14759. To sharpen them?—To sharpen them, but that is not insisted upon, until the boy gets to the third year, or a little advanced, although it is one of the first exercises, if you have any wish I would call them in, and have them distinguish these, and likewise name the parts.

14760. Do you begin at any particular point in the instruction, and go on gradually, as in literary instruction?—Yes, we begin at writing—you speak of the bench work—cross cutting and cutting along the grain, and oblique cutting.

14761. I notice a remarkable difference in regard to your tools and benches, and in many other respects, from what I have seen in Sweden. I have not seen here an example of a saw with a frame and handle, the saw itself is very narrow and sharp. We have it here—a frame saw—but it is used only in special models and is not one of the elementary exercises.

Lismore.

Apr. 22, 1899.
 Rev. Mr. Gagey.

14752. But you do begin at a particular place or part of the subject, and lead the pupils on gradually?—It is graduated with care from saving to the more difficult exercises.

14753. Another thing you would never see in Sweden is the tools left upon the benches?—The tools are never left after the exercises on the bench; they have little bases, and they put them in the lower press. Book is accountable for the tools he was using, and he puts them safely in the press. There are twelve sets of tools, and twelve places for them.

14754. When the articles—the models—are made, what is done with them?—They are kept until after the examination, then the boys may take them home.

14755. Mr. HARRINGTON.—I observe that you have an artisan to help you here; is that necessary?—It is necessary, because my knowledge of the mechanical part of the work is not sufficient.

14756. How could the manual work be introduced into the rural schools, where the teacher would not have the services of an artisan at his disposal?—The exercises are simple, and I think he should go through a course of them.

14757. You think that he could learn sufficient to make the presence of an artisan unnecessary?—I believe so.

14758. In what way would you suggest that the teacher should learn this manual work?—I cannot very well answer, except by taking courses in manual work.

14759. How long ought the course to?—I think an intelligent man would have it in about two months, by continuous lessons, but I am not very capable of giving an opinion on that.

14760. I thought, perhaps, you might be able to tell us from your own experience?—Well, I am not an expert scholar in that way.

14761. Do you know whether the money you get from the Science and Art Department covers the cost?—Not at all. It does not cover it.

14762. There is a loss then?—The money got would not be at all sufficient.

14763. I suppose the reason of that is that you have to employ an artisan, but if you leave his wages out, would the money received from the Department cover the cost of the wood, the repair of the tools, and so on?—It would do that, but it would leave little or nothing to pay for the services of whoever would be teaching it.

14764. Is not that a difficulty in regard to the introduction of this into schools generally?—I think it ought to be a good deal more liberally supported by South Kensington, in order to make it a properly paid subject.

14765. I observed that there was one little boy of nine years of age here. You don't object to boys so young being taught this work?—Not if he is sufficiently strong.

14766. You find that it is safe to entrust him with a chisel and other tools?—Since we began to work a single accident has not happened.

14767. How long has the work been going on?—Four years. They are prevented leaving the bench with the tools, and going through the school; precautions are taken to prevent accidents.

14768. Captain SHAW.—You only use your work-shops for two hours during the whole week?—Yes.

14769. If you had a large number of boys it could be used more frequently?—It would educate in this way 250.

14770. If you were educating 250 the present fees would nearly cover the expenses; if you had 250 boys you would get the same payment per head that you get on 24 boys per head, and that would nearly cover the expenses of the work?—No; the payment made by South Kensington would be only half sufficient to meet the expenses.

14771. I think in pointing out what you considered the results of this instruction, you did not mention anything about neatness and accuracy?—That was an omission, because it is constantly calculated to help

those, as also to induce habits of perseverance, love of work, and self-reliance.

14772. And also you teach your boys drawing here. They learn some solid geometry in the course of South Kensington, do you find it an advantage that way?—We are not in connection with South Kensington in solid geometry.

14773. But you could take it in the 7th standard boys?—Yes, you could take it; we don't take it.

14774. But at any rate it gives them some ideas of plans and elevations, and the use of drawings?—Yes, and the models would be useful; but I consider it a secondary matter.

14775. It helps the education to that extent?—It does.

14776. Mr. HARRINGTON.—Am I correct in saying that your school is the first in Ireland that has adopted this system of manual instruction?—Well, I don't know if that is quite correct, because we have a place in Dublin that commenced it about the same time, and which was first I cannot say.

14777. Is it working well?—I think so.

14778. What school is that?—Gloucester Orphanage.

14779. Anyway, it is very creditable to a small place like Lismore to be so well in the front in this movement. We had no evidence, I think, as to the cost of the building here?—This building erected by your own brotherhood?—No, it was erected by a gentleman who was a native of New Lismore. He is living in Germany now—a Mr. Welsh.

14780. An enthusiast in this subject?—An advocate of it.

14781. How are the tools provided and the wood for the boys?—They are provided partly from his liberality, and partly from a subscription given by the Duke of Devonshire of £10.

14782. Is the grant you get from the South Kensington Department sufficient to maintain the school in an efficient condition, without trespassing on your own private funds here?—You speak of the grant in addition to these other sources?

14783. Yes?—It is.

14784. Without outside help, the grant you get from the State, that is from the South Kensington Department, would not be sufficient to maintain the school in a proper state of efficiency?—Not at all.

14785. I think you told us that drawing is compulsory in the whole school here?—It is.

14786. I suppose I am right in assuming that, without it you could not possibly teach the woodwork properly?—Well, you could not have connection with South Kensington in manual work if you hadn't drawing compulsory, although the two are distinct, they make that a condition. Of course, the fact of drawing being taught to all makes it more easy for the class to learn, but it would not be impossible, even though it was not taught at all, that a class should learn the little drawing required.

14787. Would you be in favour of the introduction of drawing into all the primary schools?—Decidedly.

14788. Could you give us any idea of the relative merits, from an educational point of view, of this manual instruction, and of instruction in elementary science, such as you have been alluding to. In places where you could not introduce both subjects, which would you advocate the introduction of?—I could hardly answer that question.

14789. I notice on the wall here you have the course of exercises mentioned. I suppose those could be furnished to the Commission for reference. I am sure they would be very interesting to us?—If it would be any service, I will furnish them.

14790. Might I ask from what source did you frame your course?—From a study of the different courses actually existing.

14791. In England?—Chiefly in England.

14792. You did not send anyone to Germany or any foreign country?—No, I went myself to London. I also got help from a study of the *Sloyd* course of Sweden.

14793. CHAIRMAN.—Did you pass through Nass yourself?—No.

14734. REV. DR. EVANS.—Are there any models of benches or tools in that book you referred to?—Which book?

14735. You mentioned some book?—There are models I think in different books.

14736. Because your benches differ most materially from those in Sweden?—Well, I don't think that the benches are taken exactly from the models on any book, but are intended to suit the circumstances.

14737. The mode of holding the timber when planing and sawing is wholly different from what I saw in Sweden, and the mode of dealing with the tools also. When a boy is done with his tools he does not drop them on his bench, if it is a double bench he puts them in a place in the centre—between the two boys—for they are never allowed to be left on the place where he works?—Nothing objectionable arises from its being on the bench, and if the bench was raised in the centre it would obstruct the view.

14738. No, but it is lowered; there is a kind of receptacle between the two?—As a matter of fact, I see nothing objectionable in their being left on the bench.

14739. MR. HARRINGTON.—Have you, since you introduced this subject, noticed it has had any marked effect on the boys when they go into occupations afterwards? you have hardly had time yet, perhaps?—I cannot say that it has affected their future in a marked way; it certainly has not had the effect that some thought it would of making them all carpenters, for of all that passed through only two became carpenters, six went to other trades, ten are still at advanced schools, and the remainder went to various occupations, so that I think it had the effect that I thought it would, of not at all making them become tradesmen, or carpenters especially, as was thought, but that it had clearly an educational effect.

14800. MR. MOLLOY.—During the four years since the establishment of this manual instruction class in wood, how many boys have gone through the process?—About 50.

14801. Have you been able to follow their career subsequently?—Two became carpenters, about six became tradesmen, ten, about, are still pursuing a higher course, and the remainder are at various occupations—some in the church, some in the army, some farmers, some in shops.

14802. The course marked down on your Time Table is a three years' course, and you have been

kind enough to promise to let us have a copy of it?—Yes.

14803. Is that course based largely on any special text-book?—No special text-book, but it is taken from various text-books.

14804. The drawing exercises for the boys who come here are carried on exclusively in this room—do they also receive instruction in drawing in the other school?—They do, but not in connection with this, all the boys have a course of drawing in the several standards, and when they pass the 4th standard in the ordinary course, they are eligible for this, and they have a special drawing for this, part of the two hours.

14805. Had your special instructor in manual work been at all engaged in teaching before he came here?—He was a carpenter, his business is only carpentry, and he merely sees that they go through the work properly.

14806. He gives no instruction in drawing to scale?—No instruction.

14807. And that instruction is carried on in a room under your direction?—Under our direction.

14808. You may have heard from Mr. Walsh, or his friends, even appreciatively, what the cost of the erection of this building was?—The cost was about £275.

14809. That is the building alone, and then the furnishing?—And some of the furnishing, then different things were added.

14810. Are all your pupils free, do they pay any fee?—There is no fee of obligation; some pay a very small thing, but they are all free in the sense that nothing is obligatory.

14811. And it is optional with the pupil to attend this class?—Quite optional, except that as a matter of course they fall into it willingly.

14812. Did I catch your meaning rightly, that you think a good knowledge of drawing ought to be compulsory on every teacher, and also a knowledge of manual work?—That both drawing and manual work should be compulsory.

14813. On every teacher?—Yes.

14814. And in order to acquire a knowledge of manual work he would have to go through a course?—I imagine he would.

14815. No injurious effect arises from shortening the school course in certain subjects, grammar and geography, with a view to introduce manual instruction?—I think none at all.

Lieut.
—
Supt. G. B. B.
Rev. Father
Chapman.

THIRTY-FOURTH PUBLIC SITTING.—FRIDAY, OCTOBER 1st, 1897,

AT 3 O'CLOCK, P.M.,

At the Munster Dairy School, Cork.

Present:—THE RIGHT HON. THE EARL OF BELMORE, G.C.M.G., in the Chair; THE RIGHT HON. C. T. REDINGTON, M.A.; REV. HENRY EVANS, D.D., REV. HAMILTON WILSON, D.D.; STANLEY HARRINGTON, ESQ., B.A.; W. R. J. MOLLOY, ESQ.; CAPTAIN T. B. SHAW; and J. STRUTHERS, ESQ., B.A.,

with J. D. DALY, ESQ., M.A., Secretary.

Sir GEORGE COLTHURST, Bart, Chairman of the Governors of the Munster Dairy School, examined.

Sir George
Colthurst,
Bart.

14816. CHAIRMAN.—I understand you propose, Sir George, to give evidence relative to the foundation of the dairy school and other matters, which you will no doubt detail to us; perhaps you will do so in your own language?—I should not have taken up your time, I don't think, only that I saw that Mr. Carroll, in giving evidence, alludes to the work of the local committee and to the inception of the school. But as he has done so, I thought I was bound, as I told Mr. Barter, to think, the only two survivors of those who originally carried on the negotiations with the Education Commissioners, to put the facts of the case before you.

14817. Perhaps in your evidence you will point out to us the number of the questions you refer to as

you go on to?—I will take this first.—Mr. Carroll's evidence is all of the same tone generally. He says—
“More attention was given to instruction for dairyming, because the Commissioners thought it desirable to give more attention to the special circumstances of the district.” Well, in 1880 the first proposal for a school was a resolution—on the 27th March, 1880—was a resolution proposed by Dr. Sullivan and seconded by Mr. Longfield, appointing a committee to consider the circumstances of the Munster Dairy School, and to present a sale—it was then up for sale. On the 24th of April the committee was appointed, and Mr. Barter was appointed honorary secretary. Negotiations had been going on with Professor Baldwin, and they offered to supplement the salary by

Notes

Oct. 1 1897.

Mr George
Colburn,
Bart.

£50 in order that a thoroughly good superintendent should be obtained for the school. On the 8th of May it was proposed that there should be two sessions for resident dairy pupils. On the 15th May the committee received a report from the Commissioners, in which they declined to accede to the admission of resident female pupils. On the 26th May it was decided that a deputation should wait on Mr. Keenan; and Mr. Benter, who is present, Captain Sherfield, who has gone, and myself, waited on Mr. Keenan. We had an interview with him, which lasted an hour and a-half, and as the result of that interview we wrote him the following letter—

14818. REV. DR. EVANS.—I suppose you refer to Sir Patrick Keenan?—Yes, Mr. Keenan he was then. This is after our interview with him, he having said that under no circumstances could we have resident female pupils, because the school had been used as a lodging-house for the male pupil teachers who were taught in Angleson-street, at Cork, and therefore he had no means of putting up these male teachers except at the Munster Agricultural School. This is the letter:—

"DEAR SIR,—Our committee feeling that the admission of female pupils as boarders is indispensably necessary for the success of the school, and being most anxious to co-operate with the Commissioners in removing any difficulties there may be, we make the following proposals, hoping they may meet with your approval.—First, that the pupil teachers should be altogether removed from the establishment, and that the school be kept, as we have supplied, as a purely agricultural one. For that purpose we the local committee guarantee a sum of £100 a year for three years, to assist in providing the necessary accommodation for them."

14819. CHAIRMAN.—For whom?—The pupil teachers elsewhere.

"Second, that resident female pupils be admitted for the month of January to July, so that we guarantee clear board and undertake their moral and religious supervision during their residence, the Board giving us at our disposal all the resources of the establishment."

On the 1st of June, we received then a letter from Mr. Sheridan, who was then Secretary to the Commissioners of National Education:—

"SIR,—I am directed by the Commissioners of National Education to request you for the information of the local committee connected with the Munster Model Farm, that the proposal made in your letter of the 27th ultimo has been accepted by the Commissioners of National Education, subject to the approval of the Lords of Her Majesty's Treasury, to whom a communication on the subject will be submitted without delay."

"I am, &c,

"Your obedient servant, &c.

"To Richard Benter.

On the 26th June we received a letter from Professor Baldwin, stating that the Treasury had declined to sanction the arrangement. A deputation went over to London, and thanks to the county members and Mr. Justice Johnson, I had an interview with Lord Frederick Cavendish, and he assured us that the difficulties would be got over. On the 16th July we received the following letter from the Commissioners of National Education:—

"SIR,—With reference to the subject of the reconstitution of the Munster Model Farm on a new basis, I am directed by the Commissioners of National Education to inform you that they have had much pleasure in receiving from the Lords of Her Majesty's Treasury their sanction to the arrangement submitted for their approval. In accordance with the directions of the Commissioners, I transmit the following extract from the letter of the Secretary to the Treasury, conveying their lordships' sanction:—

"As your lords saw and intend the scheme, the responsibility for the management of the farm will rest as before with your Board, the local committee being at liberty to apply their own scheme, and bearing whatever additional cost it may entail beyond the sum already provided in the estimates. Their lordships, therefore, presume that the returns from the farm which are applied in the estimates in reduction of the amount required to be voted, will not be reduced by the new arrangements. On this understanding they will not withhold their consent to the

experiment, but as they still hold to the policy of gradual development of the system of substituting these model farms out of public funds, they can only assent on the express condition that no increase in the present charge upon the estimates is required in respect of the model farm, and they reserve the right to withdraw their sanction to the continuance of the experiment if they have reason to think it is not succeeding. They desire, therefore, to be furnished each year, at the time that the estimates are submitted to them with a report, showing the progress of the scheme. With regard to the accommodation of the head master and pupil teachers of the model school who are at present lodging at the farm, your Lords accept the offer of the local committee to contribute £100 a year for three years towards the expense of housing them elsewhere."

14820. Were those the pupil teachers connected with the school in Cork?—Yes, in the city, Angleson-street, and they lived out here, because the school had been a failure, and they could not get anybody else to come here, and I suppose used it as a means of providing a lodging for the pupil teachers of Cork. I wish to put on record that the starting of the dairy school was due to the action of the local committee, and not to that of the Education Commissioners; of course they co-operated with us absolutely, and I wish to say, if I may, on behalf of the committee, that the real man who was the mainspring of the whole scheme, and under whose advice we acted all through, was the late Dr. William Sullivan, President of the Queen's College, who I look upon as the real founder of the school. And the scheme which Mr. Beazley will submit to you for doing the same thing for the male pupils as we think has been done for the female, we look upon as a legacy from him, which he left us to carry out, if possible. Mr. Carroll—I don't in any way want to understate Mr. Carroll's services—says that the success of the school dated from his coming to it, and at question 1831 he says:—"I will speak candidly and plainly—as dates from my coming to take charge of it." I am the last person, I should not in the least wish to understate Mr. Carroll's services, but I point out to him the school was started before he was appointed; when he was appointed he took charge of it, no doubt, and he was there for a year and a-half, and did his work very well, but if it had not been for the local committee he would have had no material to work on. Because at the first session, out of the first 136 pupils that attended up to 1889—and he went away after 1885—78 were paid for, 36 were paid for by members of the committee, and 42 by subscription to the school, so without the local committee the school could not possibly have existed. He did his work admirably, no doubt, and was a very good superintendent, but the school is even more successful under the man who succeeded him, and therefore, it is absurd for him to say it was his coming there that made the school a success. You seem to ask here, or some of the questions seem to ask as to whether it is necessary, in starting this school, to have a local committee. Well we consider, from our experience, that it is absolutely indispensable. Of course there are one or two questions on which we differ from the Commissioners.

14821. I see those questions you are alluding to were asked in cross-examination, they were not asked by me. The first one drew attention to was put by Monsignor Molloy—I don't know; there was one question—the school had been a dead failure up to the present, and the committee felt that, unless we were assured of the support of the heads of both religious denominations in the country, it would continue to be a failure, so we waited on the heads of all religious denominations in the country, who gave us their cordial approval, and as you see we introduced into our first prospectus a hint to that effect. Well, the Commissioners refused to insert it, they sent it back again, saying it could not be inserted, and we then passed a resolution that if it was not inserted we should hold ourselves disinterested of all responsibility, and cease to have anything to do with the school.

And then they inserted it. All we asked to have inserted was—"The local committee has intimated to the Commissioners that the arrangement for separate religious instruction of the pupils has the approval of the Most Rev. Dr. Delany, the Right Rev. Dr. Gregg, and the heads of the different denominations." After Mr. Carroll left, in 1881, he was succeeded by Mr. Smith, and the work of the school went on. We had previously extended the time from a month to six weeks. In March, 1883, we proposed that the time devoted to the diary-works should be extended to six months—three terms of two months each; they agreed to that in May, and in 1884 we started on our own present system of three terms of two months each for the diary-works, and we have always more applications than we can fill. I only propose to take you up to 1884, and the rest of the evidence can be given by Mr. Barker or Mr. Beames.

14823. Rev. Dr. EVANS.—I should like to know what exactly is the meaning of the statement that the Commissioners would not put something into a prospectus?—This is the prospectus you see that was sent up. In the prospectus we inserted:—"The local committee has intimated to the Commissioners that the arrangement for separate religious instruction of the pupils has the approval of the Most Rev. Dr. Delany, the Right Rev. Dr. Gregg, and the heads of the religious denominations." The Commissioners refused to put that into the prospectus; it was sent back to us twice, and on our finally threatening to resign, it was put in.

14824. Mr. MOLLAT.—May I ask you about the time of the establishment of this place: does it not go back to 1849?—Yes.

14825. And at the time one of the objects stated by the Commissioners in having model farm establishments was that they should be residential places for

the male pupil teachers in the model schools. Later on a model school came to be established in Cork, and the pupil teachers were in residence, but the Commissioners never had females in residence simultaneously with the young men?—No.

14826. I would give that as a reason why they objected to the proposal in the first instance?—Yes, but this was a school that was started for agriculture, and instead of being used for agricultural students it was used as a lodging-house for pupil teachers who were teaching in Anglosax streets, in Cork, and therefore it is not immaterial that the Treasury should object to waste a sum of money in carrying out a scheme of education which did not exist.

14827. As a matter of fact, every model school had the residence for these male pupil teachers in the agricultural school, I will take for instance, Belfast, Athy, Kilkenny, as a rule the pupil teachers of the school resided on the farm, and one of the objects of the Commissioners was that these lads should receive agricultural instruction?—The result was that they did not get it.

14828. Your committee very generously offered to take that expense off the Commissioners' hands?—It was the only terms on which we could get the admission of female pupils.

14829. Mr. HARRINGTON.—I believe that this is the only instruction in Munster in which agriculture is taught to boys or girls?—The only one I know of.

14830. And if this had not been taken in hand by the local committee, Munster would be absolutely without a place for purely agricultural instruction?—It is the only one that has been kept up; the other one, Mangret, in Limerick, was given up.

14831. Mr. MOLLAT.—What is the size of the farm?—126 acres.

14832. And the number of the students?—You will get that from the Secretary.

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Mr. George Colthurst, Bart.

Mr. RICHARD BARTON, A.P., Vice-President of the

14833. CHAIRMAN.—You were formerly hon. secretary of the Munster Dairy School?—Yes, my lord; I was hon. secretary for the whole time—except for two years that I was ill—that the Munster Dairy School existed under the committee before the charter was obtained.

14834. You have heard the point to which Sir George Colthurst referred, and I am from a marked copy of the evidence that you wish to refer to some of the evidence that Sir George did not refer to; perhaps I might read it to you. The Most Rev. Dr. Walsh asked Mr. Carroll, in cross-examination, as follows:—

"Q. 1354. Do you think local management is better than the management of the Commissioners?—I don't say that entirely."

"Q. 1355. Take the facts. When these schools were worked by the Commissioners they were worked at a loss, and had to be given up at a loss of £100,000. We have before us at the present moment a school at Cork that was not successful when it was under the management of the Commissioners, and is now successful under local management. Putting all those facts together, does it not show that local management is to be preferred in the interests of the State?—I quite believe that local management is absolutely essential, but I should not like to speak that the success of the Munster Dairy School is entirely owing to the local management."

"Q. 1356. But that school was a success under the local management?—It is a success under the co-operation of local management with the Commissioners of National Education."

"Q. 1357. There is no difficulty whatever in having the co-operation of the Commissioners of Education with local management?—None whatever."

That is the evidence to which, perhaps, you will speak?—I think, my lord, it is almost absolutely due to the action of the local committee. I had more to say than anyone else to the practical working of this, as honorary secretary, and only for the active co-operation, I must say, of one of the most harmonious committees I ever had the pleasure to work with, and

Governors of the Munster Dairy School, examined.

one of the most hard-working, and aided by the wonderful ability of Dr. Sullivan, this school would never be the success it is to-day. For the first two years the whole responsibility was thrown on us, we had to give all the instruction, in writing to Mr. Carroll of what was to be carried out, in the feeding of the cows, the whole management of the cows, and everything. There was a direct rule by Professor Baldwin that everything was to be given in writing that was decided by the committee, which I invariably did as hon. secretary, after first consulting Dr. Sullivan.

14835. Then your point is that Mr. Carroll simply acted under the orders of the committee?—Yes, entirely. And I want to say that I had to collect £500 a year for the first two or three years to carry out our duties here as the committee of this school, and it was a very heavy work on me. I found it so heavy that at the end of the first year I asked for an assistant.

14836. Where did you collect the money?—I collected it through the county, personally from the gentlemen, and from some of the public bodies. I have on the minutes (produced) a list of the original subscribers.

14837. Mr. HARRINGTON.—You collect money throughout the county of Cork, in aid of this school; do you give it in prizes to encourage the students?—Lately the subscriptions are rather limited, and it is really going now to pay the officials. We have to pay the superintendent £50 a year, in addition to his salary, we have to pay entirely for the veterinary and chemical lectures, we have to pay a secretary, and for any advertisements in connection with the school, and then the balance goes to prizes.

14838. You have also got some endowment, have you not?—No, we got a grant of £2,000 out of some fund, which we have always kept in reserve, in case our school was extended. That fund is practically intact at this moment.

Mr. Richard Barton, A.P.

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14838. You don't spend the interest of it.—We have spent the interest on better experiments and other things like that. We carried out an extensive series of better experiments last year, and the money for that, £70 or £80, was paid out of the interest on that money.

14839. Could you tell us what lectures are given in chemistry?—There is a course of twenty-six lectures given in chemistry and veterinary science.

14840. Are there practical demonstrations?—Yes, we have a museum here, to which the Commissioners furnished a lot of specimens, and we pay these two lecturers in Cork ourselves out of this fund which we collect.

14841. Besides the twenty-six lectures, is there any practical work done by the students?—There is. If any animals are sick we treat them, and we sometimes get a diseased animal, and dissect it.

14842. But in chemistry?—Yes, of course, test the milk and test the butter, and the water in butter—that is practically shown. Everything we do we try to do it as much on the practical lines as possible.

14843. There is no class specially for National school teachers?—Not now. There were seven or eight of them here when we took up the school. We had to pay £100 a year for three years in Cork, and I had to be responsible for this money, with the other members of the committee, to provide lodgings for them in Cork, before we were allowed to have a girl here.

14844. But I mean ordinary National school teachers?—We have nineteen now.

14845. Are they teachers?—No, but teachers could come in, and men who wish afterwards to be heads of milk and butter factories throughout the country; we put up power separators, and make these men thoroughly qualified in their use.

14846. None of the students you have now are National teachers?—Not as far as I know.

14847. If it were thought desirable to have a course of lectures for National teachers in agricultural chemistry, and such subjects, do you think that this would be a suitable place to give it?—The term is too short; four or five months in the autumn is inadequate to teach boys anything well.

14848. If the course were not in agriculture, but in agricultural chemistry?—The scientific course could be fully carried out, we have every appliance necessary.

14849. Do you think that would be popular with National school teachers?—would they like to come up?—I think they would. I watch very carefully the pupils who leave school, and I think if the primary education, the foundation, had been better given, the results of the school would be better than they are.

14850. CHAIRMAN.—What do you mean by the foundation being better given?—A little scientific work from books before they come here. I always find if boys get a little groundwork in botany and chemistry, and the girls in the theory of milk and cookery, they would derive a great deal more benefit from the instruction here. We have always impressed the necessity of keeping girls on for a second season, two months is not sufficient, and all our prizes have been devoted to giving them a second season.

14851. Have you any opinion as to the present system of agricultural instruction in our National schools?—I have had no personal experience.

14852. Mr. HAMINGTON.—As regards the finances of the institution, is it self-supporting—are you able to maintain it from year to year without infringing on your capital?—We have never encroached on our capital; the Treasury pay any small loss there is; of course, the pupils are taken in for less than their food cost, and the Treasury supplement that—2s. 6d. a week, each.

14853. You have laid before the Government a demand for a very large extension of this institution?—Yes, for male students.

14854. Can you tell us about the class of students that come here—do they come with any scientific knowledge of agriculture?—I should say practically none.

14855. The scope of our inquiry is really confined to the elementary school; would it not be a great

advantage if the sciences that underlie agriculture were taught in the National schools; would it not help an initiation of this kind materially?—That is just what I say; I think if a foundation were laid, the effects of this school would be even more marked, good as they are now—the first month or two, which is spent here, perhaps, in breaking the groundwork, would be left to practical work more.

14856. CHAIRMAN.—At what age do the pupils come here?—We don't like to take them under fifteen. We had a few at fifteen, but we have extended the rule to seventeen.

14857. You think a boy might be taught these elementary subjects up to the time he would leave school, and then come here?—Yes, with a fair knowledge of the bookwork part of it.

14858. Mr. HAMINGTON.—You have a great knowledge of agriculture in this part of Ireland?—Yes; I am a very large farmer.

14859. Don't you think if manual instruction were introduced into the National schools it would be a very great advantage to the agricultural community?—Most decidedly, and it is urgently wanted; I say, from my experience of the farmers about the country, the want of that is most marked all over the country—they are behind-hand in the race altogether.

14860. Mr. STURTEVANT.—Your pupils come here about the age of seventeen?—We had a few at fifteen, but the secretary tells me there is a rule lately that it is extended to seventeen.

14861. Do you know what they are engaged in when they come here?—A great many of them are farmers' sons, men who want afterwards to become heads of factories.

14862. The children leave the National schools and primary schools generally at thirteen?—Thirteen or fourteen.

14863. If they leave the school at thirteen and don't come here until seventeen, any instruction they got at the primary schools would not last with them?—I think they stay longer, they go to Christian Brothers and others after they leave the National schools; they go to a higher school. Nearly all the boys about are Catholics, and go to the Christian Brothers, where they get an admirable education.

14864. The pupils you desire to have here then are the boys who have undergone some further instruction than what they get in the elementary schools?—Yes, they would derive more benefit.

14865. Mr. MORROW.—Has it ever been thought of by the committee to establish here that primary school you speak of?—We had no scope, because the school is practically going the whole year round, our superintendent gets a very short holiday.

14866. Could any portion of the premises be set apart for it?—The objection all along is having male pupils here with the females, it is laid down most positively that no male pupil should be on the premises during the six months that the dairy pupils are here.

14867. CHAIRMAN.—Your idea is that there should be a separate establishment altogether?—Entirely.

14868. Mr. MORROW.—Have you not a separate building in which a school of that kind could be carried on?—No, the farm is only 126 acres, and there are 26 acres between waste and buildings and gardens; there is no room here.

14869. What is the exact period of the season for men?—Between four and five months.

14870. Rev. Dr. WINSON.—What are the main elements of your present success as compared with fifteen years ago?—When we began the school first, we had, out of our own pockets, to force the girls to come, to pay for three, and now the whole of the next year's success are practically full.

14871. Are the pupils generally farmers' sons?—I am talking of the female pupils. The male pupils have never been so successful.

14872. Then it is chiefly in connection with dairying?—It is the girls I am speaking of.

14873. Do you think the instruction obtained here has benefited the farmers largely over Munster?—Well, the Head Inspector of the Cork Butter Market

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told me frequently that his opinion was that it had graded up the butter in the Cork market £10,000 a year, the instruction conveyed by this school, and he could tell the head of the Dairy School on every farm from a pupil.

14874. They are able to make butter that fetches a higher price in the market?—Yes, £10,000 a year in that market alone, without the fresh butter and butter sold elsewhere.

14875. Rev. Dr. Evans.—Do you acknowledge any indebtedness to Mr. Carroll as all?—Certainly, he is most able, and Mrs. Carroll also.

14876. Will you kindly put in a brief form what you think you owe him?—I think his instructions to the pupils has been as good as it could be, and we were extremely lucky in Mr. and Mrs. Carroll and Mr. and Mrs. Smith who followed him, they most ably carried out the instruction in the school.

14877. Mr. Remondet.—I see by the report of the Commissioners for 1894, that during the course of last year there were eighteen male agricultural students resident here; there were thirty-seven female dairy students the first session, thirty-six the second, and thirty-seven the third; and there were twelve assistant managers. Would more than thirty-seven female students be willing to attend if you had room for them?—I think it is a mistake to admit more than you can give practical instruction to, and I think thirty-six is a larger number than the number of cows and capacity we have here for giving instruction. I would much rather see only twenty-six or twenty-eight. We at first limited it under thirty, but under the great pressure brought on us we extended it to thirty-six, and I don't think we can do full justice to thirty-six.

14878. Is it the farm or the buildings that are too small?—For practical work, we want a lot more cows and a lot more expense in every part of the dairy.

14879. CHAIRMAN.—In fact you want more material?—More material. Mr. Carroll has done a great deal lately, because he bought all the milk he could about

the country, and also he gets a large quantity of cream twice a week from Limerick, Mr. Carroll gets that for Mr. Smith, and that has been a great boon. We have instituted a very good course of instruction lately, we give each girl five cows for two days, they have to milk them and set the milk and do all the practical work, they look after their feeding, and the butter is tested, and inspected by the Head Inspector, and they get marks accordingly. And they each get an assistant, and that assistant is next time the head herself, and the assistant learns from the one over her. Lately the Commissioners of Education have granted us a new dairy, for more fully carrying out that experiment, but still the number of cows at our disposal is not sufficient. Another thing is, we have never been able to keep on our calves, we would like to teach the farmers of the country how to breed and keep the best dairy cattle, and to give them bulls at a cheap rate from the best milking strains, but really the school is so limited, and we want such a supply of milk that we have only been able to buy from hand to mouth in Cork market.

14880. What number of cows is the maximum?—thirty-five.

14881. Then the way you work it is this, you have thirty-six dairy-cows, and thirty-five cows, and you give an individual dairy-cow five cows for a certain number of days, and then other days another person has them, and then a third and so on?—We divide the girls into three divisions, one class at practical dairy work, No. 1 class is at needlework and mending, and the third class at technical instruction and cookery, all attending daily lectures and demonstrations.

14882. They do cookery?—Yes, the ladies' committee is most careful about that, it has been one of the greatest boons, the laundry work and tidiness is very little second to the instruction they get in dairy work, thanks to the ladies committee.

14883. How many days consecutively are the girls kept at one occupation?—They rotate about daily for the eight weeks they are here.

Mr. LUDLOW A. BRANDE, J.P., Hon. Secretary, Munster Dairy School, examined.

Mr. Ludlow A.
Brande, &c.

14884. CHAIRMAN.—You propose to give evidence as to the want of suitable education at the Munster Dairy School for male pupils. But before we go into that perhaps you would give us a little more fully what the female pupils do, the nature of the instruction they get?—They are divided into classes; a certain number of them milk cows. Mr. Barter has told you of the recent alteration by which each girl gets five cows for two days; the others take their share of the milking of the rest of the herd, and a certain number are told off to dairy work, a certain number to laundry, and a certain number to cooking, and then they get theoretical instruction in dairying.

14885. There are thirty-five cows, one girl milks five, therefore there is employment for seven girls each day, and she takes it a second day?—Yes.

14886. Then on the next two days you have another set of seven girls?—There are only five cows actually under the charge of one girl, because there is only one dairy, the milk from these cows is kept in a separate dairy which can only be used for one set of cows at a time.

14887. Then you have seven sets of five cows?—No, the cows are not divided into sets. The superintendent reported that he found as the result of the work that very often a sharp clever girl, good at picking up the theory of dairying, when she came to the examination came out higher than a girl who was a nice practical dairymaid. He reported that to the committee, and we had a consultation, and this plan was devised to test the practical as well as the theoretical work; and, therefore, five cows are taken, in as nearly the same state of milk as we can get them, and each girl has five cows for two days, she takes the milk, keeps it in a separate dairy, is allowed

to manipulate it as she pleases, the superintendent watching it carefully and noting how she treats it. The butter so made is put apart, and a sample sent to the head inspector of the Cork butter market, who awards it a mark; that mark in conjunction with the mark the superintendent has given her for practical work in the dairy during the two days, constitutes her score for practical dairy work; so this is added her score for theoretical dairy work, and the result establishes her place in the class.

14888. Then if a girl comes for only one term, she only milks?—She may milk the cows, but she has also the treatment of five cows for two days, for the remainder of the time she is taking her portion of the ordinary dairy work of the school.

14889. Now, perhaps, you will pass on to what you intend to tell us?—I wanted slightly to sketch the development or rather retrogression of the agricultural education for male pupils. When the dairy school was started, the first season for male pupils was in 1881, and was for four months' duration, in 1882-83 there were two seasons of four months each, that was eight months, but from 1884 to 1894, in consequence of the development of the dairy classes, the increase in the number and the lengthening of the season, it was only possible to give the boys four months, and those four months were given at the end of the year, from 25th of August to 25th of December. That went on to 1895, when an additional month was added from 25th of July to 25th of December. The moment that became the rule of the institution the local committee began to object; it struck them as it must I think strike anybody, that to teach boys agriculture, bringing them in in July and sending them out in December, was very little better than a farce, the whole and the end, which is probably

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out of the most important parts of agricultural work was omitted from the pupils' education, the summer work was omitted, and they could only see the results. It was very much like putting a person in charge of a finishing machine in a wool mill, and telling him he had been taught how to make tweeds. Even in a short visit here, Mr. Jenkins, the former Secretary of the Royal Agricultural Society of England, although he was very much taken by Sir Patrick Keenan's work and that of the Commissioners, in reporting on this school, stated that "four months in the year cannot be considered as of much practical use, and can be only looked upon as a stepping stone for clever boys to get free scholarships at Glenside." It would, perhaps, weary you to go through the various steps the committee have taken from time to time to bring this fact under the notice of the authorities. In May, 1886, we sent forward a strong resolution, pointing out the inadequacy of the education. We think it does to a certain extent harm, because it produces a superficial habit of mind. You teach a boy a good deal of the theory of agriculture, and he may be practically grossly ignorant, or he may have come with an erroneous impression as to certain details of practice, which he goes away with because he does not go through the whole work of the farm year.

14890. Will you tell us what you think would be a satisfactory course, both satisfactory and practicable, assuming you had money to carry it out?—After applying to the Commissioners on several occasions, we applied to Mr. Arthur Balfour, then we went to Mr. Morley, and Mr. Morley pointed out the great fault in Ireland was that people asked him for various things without having thought out a definite plan as to how their wishes could be carried out. We sent up a definite plan, which we repeated next year to Mr. Gerald Balfour, slightly modified. We suggested that a farm of 450 acres should be taken for the boys, and accommodation put up on it for thirty male pupils, that the existing dairy school farm should be handed over to us, and maintained as a dairy farm, and managed by the local committee, subject to central control. We estimated the cost of the farms would be £8,000 in capital and £2,800 a year, including the amount already spent on this school, that would cover the cost of the agricultural farm, and the present dairy farm.

14891. Do I rightly understand you to suggest that you should have another farm of 450 acres in addition to this one?—Yes, keep this as a dairy school.

14892. Entirely for the girls?—Either for the girls or for dairy factory instruction in the autumn, but principally for the girls altogether, keeping it at all events as a dairy farm for dairy instruction.

14893. With regard to the farm for males, was that to be a dairy farm?—No, a general farm.

14894. But with dairy work included?—That might be a detail, the principle idea was that the 450 acres was to be a general agricultural farm, on which experiments of a useful character could be carried out, which, of course, it is impossible to do with the appliances at our disposal here.

14895. Do you think you could get a farm with suitable buildings on it already erected?—We contemplated getting a farm with a certain number of buildings on it, and making additions to it in galvanised iron and wood, as I happen to know has been done at the Colonial College at Houlis Bay, where young men are educated for the Colonies. We went so far that we got estimates from one of the leading people in Dublin for putting these things up, and it was on these estimates we calculated the sum we thought was required. What among other things we found a great want of here, even for the smaller experiments that we have attempted, is that of a competent bullfinch and a competent foreman. Mr. Smith has to undertake the whole supervision of the place, and do most of the theoretical education, except the lectures in veterinary science and chemistry, and it is impossible for him to be continually in the byre or field. If an experiment is to be of any value it

must be done accurately, and to do that accurately you must have men of a certain type trained to carry out instructions, and attach importance to the slightest difference in weight or measure. We have applied for such a man on several occasions, at present we have only got the ordinary foreman, and a very ordinary headman, so the whole case rests on Mr. Smith, and it is impossible for him to carry it out properly.

14896. RES. DR. EVANS.—To whom did you apply?—The Commissioners. Recently we have sent up an application again. Mr. Barker alluded to the experiments carried on in reference to water in butter, that was one experiment we were able to carry out. The attention of the committee was first drawn to the subject by the Manchester prosecutions, and they thought it would be very valuable, as the State had not thought fit to establish what should be the quantity of water in good butter, that somebody should try to do it, and although our resources are limited, we spent £83 on this investigation, with the result, as I understand, that in the Cork butter market at present they are endeavouring to get the water in butter down to the standard fixed in the report of our committee. There was another question about the same time that created considerable interest in this district, and in Ireland generally, that is whether pigs could be fed at a profit at existing prices, we submitted a plan to the Commissioners of National Education by which we thought that question could be fairly well solved; we suggested it should be carried out upon 300 pigs, and the period should be for two years; the estimated cost was about £280. Of course that was entirely outside the power of our committee. I regret to say the Commissioners did not see their way to take it up. It was to be an experiment on the relative merits of various breeds and of various feedings, and that, of course, would involve additional buildings, about £200 of the sum asked for would be for buildings.

14897. CHAIRMAN.—That was a capital sum?—Yes, £480 would have been required in addition for the two years. There was another point I should like to mention; it bears on the influence of local committees, and it goes to show that not only is a local committee desirable, but that their help should continue to be given, if it is desired to produce good results. The Commissioners appointed itinerant instructors in 1893, and in such a form that it cost practically nothing to the districts applying for them; all the district had to do was to supply an assistant and show some interest. In 1891 we communicated with one of our governing body near Duncannon, and the instructor was successful on the whole. The next year some members of our committee went to Coachford and Wexford, with the result that the lectures were fairly attended. The following year, we thought that sending out officers would be sufficient. In 1893 we got no application. In 1894 Lady Mary Aldworth interested herself in her district and introduced an instructor, with excellent results. In 1895 and 1896 there were no applications. In 1897 special efforts were again made to draw the attention of farmers to the advantages offered, with the result that we have had two instructors steadily employed since April and May.

14898. MR. MONTER.—If you had your new establishment in operation to-morrow would you not still labour under the great disadvantage of not having the proper foundation that Mr. Barker referred to?—I cannot agree with Mr. Barker at all in that.

14899. In connection with primary schools?—No, my notion is if the children come thoroughly well grounded in their arithmetic, and perhaps having been taught geometrical drawing to inculcate accuracy, they are much more likely to pick up the sound technical education they would receive at a properly equipped agricultural school than if they spent their time learning a smattering of agriculture in a primary school.

14900. In addition to darning, needlework and cooking and laundry also is taught?—These are taken by the ladies committee.

14901. Are they found to be successful?—Cookery is particularly successful. The work done in the laundry is excellent, but the pupils don't take much interest in it.

14902. The girls who come for dairy instruction here have been, I suppose, in the main National School pupils?—I should imagine so; they are in the main farmers' daughters. I have a return here of what because of them when they left us, seventy-three per cent. of them go into places as dairy maids and as factories.

14903. Captain SHAW.—What length of course do you consider necessary to give a boy?—Two years.

14904. If you had this farm established, what extent of country do you think it would supply?—It would deal with the whole of Munster.

14905. Do you think that thirty pupils in two years would be sufficient for the whole of Munster?—I fancy so, because remember there are only a certain number of farmers who would be able to bear the cost of the fees and the loss of their children's labour.

14906. Would you not think it expedient they should learn some experimental science for themselves at school?—Might they not be taught with advantage weighing and specific gravity?—They might be taught anything that would teach them accuracy, I mentioned geometrical drawing as an extension of drawing.

14907. Mr. STANFORD.—Take woodwork, where they have to make accurate measurements?—Yes, accuracy is one of the greatest wants in this country.

14908. Captain SHAW.—Do you think the agriculture they are taught at present in schools is any use to them?—I should think very little. The other day I was at a place where one of our lecturers was lecturing; the clever girl of the school was put forward, she evidently had learned a good deal, but the habit of repeating everything by heart was so strongly impressed on her that when she had forgotten the actual words of the teacher, although she knew the subject, she was at a loss; she was trying to remember the exact words in which the lesson had been last taught to her, and the girl was distinctly much above the average of intelligence.

14909. We had it in evidence a few days ago that this agricultural instruction was useful because the boys saw the work on their farms and get the reasons from the book, do you think the book reasons are satisfactory as a rule?—I think if you taught them to work accurately to two places of decimals, or to be able to measure to a sixteenth of an inch with exactness, as the case might be, you would do more good.

14910. Mr. HARRINGTON.—You did not mention that the scheme you have put before the Government has been rejected, has it not been rejected?—It has not been rejected. Mr. Gerald Balfour's answer to us was that he sympathized with our movement, but that our strength was our weakness, as if we were correct, it would involve another school for the whole of Ireland.

14911. Was it suggested it should be placed under the new Agricultural Board?—We were told to wait for the new Agricultural Board, that the question of agricultural education would be dealt with as a whole.

14912. Was not that one of the reasons why the money you asked for the pig experiment was not granted?—Yes, it is due to the Commissioners to say that it was so, but the Agricultural Board has disappeared.

14913. Is it your idea in connection with this scheme you have put before the Government that you should be under some central authority?—I think there should always be a controlling authority. I think we should have plenty of local liberty of action but there should be some authority to prevent our going distinctly wrong. In the first place we should have a strict audit about money expenditure, and there should be a power of resumption by the central authority in the event of the thing moving a failure, but beyond that I would give great local freedom.

14914. As regards the girls, could the cookery,

needlework, and laundry classes, which are very efficiently managed here, be made useful for the purpose of the National teachers coming here to learn these subjects?—I should imagine they could.

14915. There would be no difficulty in having that arranged?—That becomes entirely a question of accommodation, you must remember that recently, I think it was last July, all the vacancies for the session that opens in January next were filled, so that the year upon this place at present by girls seeking admission is enormous, the applications for admission are far in excess of our power of admitting them. I think you asked about the number of re-entries, those who must a second time, 38.71 per cent. of the pupils re-enter for a second term.

14916. CHAIRMAN.—Do you give a preference to one who wishes to re-enter over a new comer? I think you said you had to refuse candidates?—We take them in the order in which they come, but I fancy as a rule when a person wishes to re-enter she makes her application at the end of the term.

The SUPERINTENDENT.—We always give the preference to a former pupil.

14917. Mr. STANFORD.—Do you consider one term sufficient to give a dairymaid instruction?—Not quite satisfactorily. Before we give our diploma at the school we require two terms.

14918. What is the nature of the theoretical instruction; are they taught to test milk, and estimate the amount of fat in it?—Yes. I think some question was asked about our expenditure—the interest on the money granted to us by the Treasury, £2,600, which, with the accumulation of interest, is now £2,302, is £76 16s. 6d.; our subscriptions for 1896 were only £177 14s., so our total income is only about £220. We give the Commissioners' superintendent £50; lecturers, £37 10s.; our secretary and office expenses, £70; audit and inspection, that is one of the advantages we get by being a chartered body, and for which we have the pleasure of paying seven guineas, and our prizes and medals come to about £75. We are steadily cutting into our little capital—the difference is about £6 against us. We reduced our carry forward by about £4 last year. The ladies also raise about £48 themselves.

14919. CHAIRMAN.—What is the total expense of carrying on the instruction for the year, counting everything?—We have nothing to say to the National Board portion of it.

14920. Does the expenditure pass through your hands?—The only thing that passes through our hands that is not our own money is the pupils' fees.

14921. Mr. HARRINGTON.—It costs about £280. The receipts from farm produce, according to the report for 1895, were £3,047 2s. 2d.; from fees of pupils, £247 16s., that makes a total of £3,294 18s. 2d. The expenses were—working expenses of farms, live stock, &c., £2,193 13s. 9d.; maintenance of agricultural students, and salaries of agriculturists, &c., £998 18s. 6d.; the total cost of farms and training institutions, £3,191 10s. 2d., making a net cost to the State of £2896 12s. 1d.—When we went before Mr. Balfour, we made an average of £700 a year as the cost to the National Board.

14922. Mr. HARRINGTON.—Pending the settlement of this plan you have laid before Parliament, is there anything you think the National Board could do that they ought to do for you?—A proper bailiff, a proper foreman are quite within reasonable limits, and that is urgently wanted.

14923. Rev. Dr. EVANS.—An assistant to Mr. Smith?—Yes.

14924. CHAIRMAN.—How many men are employed on the farm?—Six.

14925. Mr. HARRINGTON.—Would it help the institution much if the salaries of these professors were paid by the Board, they are small lecturers?—Of course, it would, distinctly, and we supplement your superintendent's salary by a considerable sum, lecturers and the superintendent come to £87 a year.

Cork.

OCT. 1, 1892

Mr. Richard H. Bramm.

Mr. RICHARD H. BRAMM, One of the Governors of the Munster Dairy School, examined.

14926. CHAIRMAN.—I believe you wish to continue agricultural instruction at present in regard to Ireland with that which is in vogue in Sweden? I think your Commission has been over there, and probably knows something about it.

CHAIRMAN.—We have been there, but only inquired into manual work, not into this class of subject at all; I don't think we either saw or heard anything of it.

14927. Mr. BRAMM.—There is no instruction in agriculture in the primary schools in Sweden or Norway?—No.

CHAIRMAN.—Have you any suggestions as to how that can be introduced?—I think so; I think if we take the programme of instruction, as issued to National schools, and go through it, I might point out differences in the methods in which they go to work.

14928. You say there is no instruction in Sweden in primary schools, and we are dealing only with primary schools here. I understand there is a certain amount of instruction given in the shape of school gardens, and to a lesser extent in school farms in Ireland—starting with that, tell us what you wish to say?

—If I might go through the memorandum of the Irish Agricultural Instruction and point out what the instruction is in Ireland, and how it is that it practically does no good whatever. I notice here that the very first thing they state is that "the pupil should be able to explain intelligently on the farm the propagation of the ground, tillage, sowing, thinning" and so on. I am afraid they are not able to do it at all, they may be very intelligent people, but I don't see how they are able in anyway to do that intelligently. Because if the teachers have not the necessary instruction—as the teachers have abroad—how can the pupils learn?—As a rule, abroad you see the result of no teaching whatever, you see the result of systems, the older boys work on all the farms, and that goes down to the smaller children. If you examine the farms here you will find that corn is marketed in a more dirty condition than it is in Sweden, Norway or Denmark. We, in this district, are interested in barley, but the stocking of barley is not understood in this country at all, the consequence is that the barley comes to market in not as good a state as it might do otherwise, and, therefore, does not fetch so high a sum of money. The yield in the potato crops is not as great in Ireland certainly as it is in England or Wales. If the agricultural instruction is to do any good, the people should not learn things by rote, but so as to carry them in their minds even after they become farmers. They say in addition to the foregoing, "the pupils in the second fifth class should know the points of live stock, the indication of milking qualities in cows, &c., all that is necessary for farming purposes."

14929. Do you think that can be taught in primary schools?—I am quite sure it cannot.

14930. Is your point that it is no use trying to teach children in primary schools these things, but that some system should be introduced after they leave the primary school to teach it practically?—Yes, I mean that, and I mean something like comparing this country with Sweden, where I have been for seven years, farming the whole time, I don't see how the children can be taught when the teachers have not been brought up to that state of knowledge they have abroad.

14931. You say the teachers have got it abroad. But they don't teach the children in the primary schools, where do they teach them?—At the conclusion of ordinary school work.

14932. Mr. BRAMM.—Agricultural colleges?—They have more than that; they have two agricultural institutions, they have fourteen rural schools, with a six month's course, then twenty-four agricultural schools throughout the country with a two years' course, and then they have four dairy schools, and sixteen dairy stations. That means to say they endeavour to educate the child in fewer subjects up to

a certain period, and keep him concentrated on those subjects. Some of the pupils are twenty-three when they go to these schools, I don't think they take them under seventeen or eighteen, but from seventeen or eight on up to twenty-four. They take them considerably older than we do, and then they have already acquired an accurate standard of work. When I came over here from Sweden we carried out a certain number of experiments; but I found there was absolutely no knowledge of what accuracy means. An experiment is of no use unless one goes into it with minute accuracy. That want of accuracy runs through the whole system, it has been one of our distinct failures in this country. I can give you an instance outside agriculture altogether, because we employ a great many clerks and people, and the boys are the same way. At the schools in Gothenburg they bring them up to a certain point, and then they put them into a school for book-keeping, and the boys you get from there can close books, and make out balance sheets, and even buy and sell stocks, they are consequently accurate. An ordinary boy coming from school here has a certain amount of knowledge, but it is not that form of knowledge, and one has to commence teaching him accuracy.

14933. CHAIRMAN.—What is it you propose should be done in this country to give effect to your statement?—To remove agricultural education altogether from the primary schools, and to teach them accuracy in other forms, by Lloyd or whatever is suitable.

14934. Then, your evidence tends to this, that the teaching of agriculture in primary schools in Ireland is practically useless?—Practically useless.

14935. And you would prefer that they should turn their attention to other subjects which would teach them accuracy?—And concentration of thought.

14936. And should only begin to learn agriculture in some continuation school after their ordinary education is completed?—Perfectly so, but in order to do that we must get the schools, we are behind-hand in our agricultural schools, we have not carried out experiments, we have not come up nearly to the point of the Danes and Swedes. Personally, I believe, that if we came up to it we could carry get the people to follow. We carried out certain experiments here which were very useful. Mr. Carroll said they were good experiments, but that they were more to respect to the Royal Society of England than for our dairy school. I said I thought it was a good thing to raise such questions here. There was a large farmer near me and he said—"Look here, if you like to do it I will give you the whole of my cow-house and let you carry out on the farm what you said at the Dairy School were correct principles, and if you agree to do it, I am ready to bear the expense." So it shows they are ready to accept knowledge. Take forty pigs going to be experimented upon, each pig is an individual in himself just like a human being, and although you may separate them and feed them all on the same kind of food these pigs will give you absolutely totally different results, and therefore, as they do in Denmark, you have to feed them together and find out the variations which result before you commence your experiment. All that is not done here. As regards dairying they have no knowledge of ripening their cream as how to use acid.

14937. Mr. BRAMM.—Where do you mean?—Here in Ireland, they have no knowledge of whether it is a feasible thing to keep tea. We have prepared experiments several times but we are always refused.

14938. Refused by whom?—I cannot tell you, we suggest things to Mr. Carroll, he says he will do his best with the Commissioners of National Education, but of course they have their difficulties with the Treasury. The practical result is that what we want to do, to try and improve the country here and do what is successful in other countries, we are barred

from doing. Glasgow and the Manchester Daily School are the only two places where pupils can be taught a certain amount of practical agriculture, and if we cannot reach our own standard how can the teachers teach it, and if the teachers cannot teach it how can the children reach it? What is the good of a long list of subjects which cannot be done practically.

14940. CHAIRMAN.—We had a witness before us the day before yesterday who was objecting to certain things; but he said he thought the good of agricultural education as given in the schools at present was this, that the children came with a certain amount of practical knowledge that they had picked up at home, and what they learned out of books put that into words, and gave them the theory of what they had picked up in practice, without knowing what the practice meant. Do you agree with that?—No, not on the text-book, I have read it very carefully, it gives you a certain amount of knowledge, but a person would pick all that information up in a very short time in a properly organised and constituted establishment of any kind; it is so much waste of time to know that a cock is a cock and a hen is a hen. It gives no accurate information as regards the importance of feeding, how to feed, that certain natural foods and manures are to be used, and so on. We know nothing of that because we have not entered on the subject.

14941. Mr. DUNN.—And these things cannot be taught in a primary school?—They cannot, and if we could concentrate a child to more accuracy of thought and accuracy of work, people like ourselves would have greater facility in a shorter time in teaching them the real knowledge that they require, and if we ourselves were only allowed to carry out what we know to be necessary and have seen in other countries to be necessary, we would be to a certain extent prepared to undertake that instruction ourselves, but we have been barred and cannot do under existing conditions.

14942. CHAIRMAN.—I think I gather that both in Sweden and in this country you have had some practical experience of trying experiments?—Yes.

14943. When we were in Copenhagen we were taken to an experimental plot, in which they had been growing turnips; it was on that mossy ground, and we were told it would have been economical to see less manure rather than much manure, on the ground that although if you used double the quantity of manure you got larger turnips you did not get double as large turnips, and, therefore, they thought less manure was most profitable: is that your opinion?—It is a very hard thing to say; it would depend on the soil, it is like an animal; if you have got a cow you must milk the cow up to a certain point, beyond that point it won't pay you, you may feed too heavily, or not feed sufficiently.

14944. Don't you think it would depend on the quality of the land?—It would.

14945. I put some questions myself with regard to putting artificial manure on land that had been ploughed out of use into oats, and I was told it was a waste of money, my steward happened to try the experiment without my knowing it, and the result was that he found it exactly the reverse, many rats on the bad land?—Quite so.

14946. Mr. HANMINGTON.—I suppose we are right in assuming that you would not object to, but would rather approve of, the introduction of very elementary science into the ordinary National schools?—I should think it would concentrate their minds to a certain extent and teach them accuracy. Try anything, it does not matter what, so long as accuracy is taught.

14947. We have seen it done in some of the English schools where they are taught with simple balances to weigh accurately?—If they are taught accurately, but I have gone through a good many experiments in Ireland, and have found that the term accuracy is not exactly understood, but if it is taught it will aid us afterwards in teaching.

14948. Captain SEAR.—Does not the present system of teaching agriculture, which is to study from the examples around them, and then to receive an explanation from their text book, which confirms the apparent success, does not that tend to stereotype the present system and prevent any improvement; the present system is to study the fields around, and then the children are to come into the school and receive an explanation of the apparent success of these processes?—I don't think it does any good.

14949. They only go and see what is actually in existence around them?—That is not to a certain extent aided by their taking excursions, and if you were able to take these boys out to farms, and show them different kinds of farms and different kinds of crops, if that were done it would be a good thing.

14950. Mr. MORLEY.—Did I understand you to object to this programme on the ground that it required pupils to have an intelligent knowledge of the cultivation of an ordinary farm and garden plots, the fact being that the teachers of those pupils were not sufficiently qualified?—I don't wish to say that exactly, it is somewhat of a strong statement, but I don't see how in the natural course of events they can be qualified, comparing them with what one has seen abroad.

14951. Are you aware that no teacher is allowed to carry out that instruction unless he has undergone suitable instruction himself, and has obtained a certificate of competency?—Quite so, theoretically speaking, according to book learning, yes, but that is perfectly different from practical knowledge, and it also depends upon the standard of the examination the teacher goes through, and I say that the standard of agricultural education is a very low one in this country.

14952. Then your proposition is to remove agriculture altogether from Irish National schools?—Yes, and concentrate the child's mind to think accurately.

14953. Not merely the theory but any attempt at practice?—Yes.

14954. CHAIRMAN.—Then you would be against even school plots and school gardens?—The only thing that would be of use would be as regards potato spraying, if these school plots or gardens were under the Board of Education, and careful men were sent down to examine the disease, there would be no harm in the pupils using it, but I don't think it is of very vital importance as regards furthering agricultural education afterwards, because I think they would learn such subjects very quickly if they came here with their minds prepared for it.

14955. Mr. MORLEY.—But these school plots are under the Board of Education?—Quite so.

14956. Would you also remove dairy instruction from the primary schools in the case of girls?—Well, no, for this reason, agriculture is a very big subject, dairying is one of the smaller branches, and to a certain extent I don't think it would do the girls any harm, but if they intended to be dairymaids it is far better not to teach a subject like that in a primary school but to go in for it thoroughly, and master it in a month or two months at some properly constituted dairy school.

14957. You referred to some part of Sweden in which there were fourteen rural schools with instruction given for six months; have those schools any literary department?—Yes, they are principally literary departments.

14958. You say there is a combination of literary and agricultural instruction?—They are for much older pupils, they embrace science and the Swedish language, it is a higher course; it would be for a man who showed himself rather more intelligent than a workman, and he would go there after having been five or six years at a farm to master the subject.

14959. Rev. Dr. WILSON.—You were for some years, I believe, at a large dairy establishment in Sweden?—Yes.

14960. Were you manager?—I was, practically.

14961. Would you not then feel yourself in a

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position to introduce the same system into Ireland without any expensive test?—No, because every country requires its own modifications. I did try, if I may say so, experiments on the feeding of cows here, and they practically bore out what our experience was in Sweden, but one has to feel one's way, what one can do in Sweden one cannot do here. You come here and say "So and so is done in Sweden," as I have often done, and they say "It is a pleasant thing to hear it is done in Sweden, but Sweden is a long way off," and they hardly believe the statement. The thing to do is to prove in our own schools that such a thing can be done, not to be ashamed of the mistakes we make, and to recognize when we make mistakes, not to gloss them over for the sake of being called a successful school. And the committees of your boards of management should be careful not to do anything they don't think would be a success. The experiments we have carried out here to a certain extent have been failures because we have been careful to go into them beforehand. We have got the water in butter down to 18 per cent. through our experiments, when we sell 18 per cent. everybody said we were wrong, but we stuck to it, and we have proved it practically.

14962. You know how a cow is fed most successfully in Sweden?—Perfectly so, but you go and ask the farmers to do the same thing here, and tell them "You must divide your cows into certain sections," you tell them that each section should have so many pounds of food; they won't weigh the feed accurately, they will stumpy go off and get a bucket, as I have seen it done, and put a couple of handfuls of stuff in and say "That is about the amount." That is not accuracy and would not lead to success.

14963. I know it is difficult even with an ordinary Irish cook to get them to weigh things?—Yes, but it can be done. As regards agricultural education, we are in our infancy.

14964. With your knowledge and experience, if you were to enforce that accuracy, as you have power to do, would Mr. Smith cooperate with you?—Certainly, but Mr. Smith requires assistance, Mr. Smith has been most kind in all our experiments, but he requires assistance.

14965. We are far below the Danes and Swedes. What main proposals would you make to bring us up to them?—It would be an excellent thing if we could have two or four agricultural institutions. In Sweden they have four, and our populations, Sweden's and Ireland's, are about the same. But even if we started with two, we have the nucleus of two, we have Glasnevin and the Munster Dairy School, and with very little alteration in both places, but with the addition of capital and income, you might do an enormous amount to improve the agriculture of the country, but other things will develop by degrees. We could have our rural schools develop into junior dairy schools as they do in Sweden, in some of these co-operative dairies or on some of the best farms, that is where the twenty-four agricultural schools in Sweden are. They really are estates, and the Government grants them a certain subvention, and the farmer keeps one or two trained men. He then takes these poor pupils, and out of 875 pupils, 63 per cent. of the pupils of the Royal and agricultural schools are free pupils—but it hardly pays them to let them waste their time, they are given a very small subvention, but then the pupils work on the farm. They are bound for two years like ordinary laborers, a certain portion of the time is given for theoretical work, and the rest to carrying out the work of the farm in a more intelligent way than it would be by ordinary laborers, that is the way of getting over the teaching part by means of utilizing the work of the boys.

14966. Mr. STRATHEARN.—I think you would not have agriculture taught in the elementary schools at all?—No.

14967. And you think the education given there

should be of such a kind as to develop the accuracy of the pupils?—And concentration.

14968. And contrasting the Swedish schools with the Irish schools, you think more accuracy is developed over there?—I think so.

14969. Because of concentration of subjects, you mentioned they had fewer subjects?—There are other things as well; race causes a difference too.

14970. I think if you look at any Swedish programme you will find the number of subjects is quite as extended as here?—But then they must be taught in quite a different way.

14971. That is the point I am coming to, that the acquirement of accuracy is the result of the teaching; it is not a question of subjects, but the way in which any subject is taught?—Perfectly so; but the mere fact of studying accurately means time, and you cannot embrace a whole number of subjects. If I work inaccurately I can go through a great many more subjects in a shorter time, and therefore the fewer up to a certain proportion is my argument.

14972. But you may take it from me that the number of subjects taught in an ordinary school in Sweden is not less than here. Do you think the farmers in Sweden and Denmark are more intelligent than the farmers in England and Scotland?—England and Scotland I cannot tell you so much about; yes, on certain technical subjects, they are in Sweden.

14973. You know that Denmark has a great reputation in dairying?—Certainly.

14974. But the butter that is sent from Denmark to this country does not, as a rule, come directly from farms but from creameries?—Yes.

14975. And the success of these creameries lies nothing to do with the average intelligence of the farmer but with the skill of the manager of the creamery?—That has to do with the only system we are successful with here, that is the dairymaid, the dairymaid in Denmark and in Sweden is far more intelligent than the dairymaid here.

14976. Do you mean the dairymaid at the creamery?—Yes, on the farm too.

14977. CHAIRMAN.—Have you worked in Denmark?—I have seen many farms there.

14978. You have seen the controversy in the papers about the cleanliness or non-cleanliness of the butter?—It is a sanitary question, the question of water.

14979. Do you think there is room for improvement there?—Yes, on account of the water.

14980. Do you think they would get better water here?—Yes, it is the water the cows drink and the butter is washed in.

14981. It did not occur to me that it was the water the cows drink?—Oh, yes, it was, because typhoid fever was traced to it.

14982. There is less likelihood of that in this country?—Certainly, and the best butter in the world ought to be made here.

14983. Mr. STRATHEARN.—Is that to be attained by educating every farmer up to a certain mediocre level in dairy knowledge or by providing a few highly qualified experts?—That leads to another question as to how the butter is to be worked, Mr. Carroll and I disagree on the subject; he suggests the lamp system; I am afraid I am altogether in favour of well-conducted dairies.

14984. As a practical question, which is easier, to educate the whole of the farmers of a district or to get perhaps a section of highly qualified men?—It is far easier to do the latter, and therefore I say the creamery system would be a better system than the lamp butter system because that would be the less difficulty to overcome.

14985. To come to the point, why I ask these questions is this, as far as I can see, the success of the dairying in Denmark does not depend on the education given in schools?—Not now, but it used to; but I can tell you the same of Sweden; the ordinary dairymaid of the ordinary estate in Sweden

is distinctly higher than the dairymaid is in this country, she knows infinitely more of practical science.

14886. Where has that knowledge been acquired?—It is now simply handed down from one to another; they have educated themselves.

14887. Then it is not the result of any system of instruction?—It must have come from that, but it would be perhaps partly private instruction; the owner of the estate has learnt his business, and could instruct his dairymaid.

14888. That does not imply any special aid on the part of the State?—Oh, yes, you will find that a great many of the dairymaids who go out from these different schools obtain situations on these estates, some do not; the instruction must naturally come from the State if you follow me.

14889. I am afraid I do not!—Suppose a girl has been to a State school and mastered her work and comes home, then she instructs her own sisters.

14890. That shows this special knowledge is not due to anything they acquire in the ordinary schools, but to something afterwards given?—Yes, special technical instruction afterwards.

14891. So therefore you cannot hope to effect any great reform in the agriculture of the country by doing anything in the elementary schools?—Other than the introduction of accuracy, but not on special subjects.

14892. But you have no views as to how this accuracy might be obtained to a greater degree in the ordinary schools, have you?—No, I have not, you ought to know a great deal more about it than I do; I would not venture to suggest anything in that way; I only know the want is felt.

14893. At what age do you take pupils into this institution here?—They vary from seventeen upwards.

14894. I think one of the witnesses said that the majority came from National schools, that is to say they have been at no other schools through the country?—I think so.

14895. And they probably left those schools, at what age?

Mr. Smith.—From fourteen to sixteen.

14896. Mr. STRUTHERS.—You could not admit them earlier to your institution?—Do you refer to females or males?

14897. Take the dairymaids?—No, I think the work would be rather against them, too heavy, the great thing here is not only accuracy, but we must teach them how to work.

14898. CHAIRMAN.—I suppose strength is required in milking a cow?—Exactly so.

14899. Mr. STRUTHERS.—On the other hand, if you were able to take them at an earlier age you would get them direct from the school, at present

there is an interval between leaving school and coming to your institution, in which the effect of any school instruction that was useful might be lost?—Yes, if a girl was strong at fifteen there would be no objection, but when she comes here she should be placed under strict discipline, and ought to have heavier physical work to show her exactly what real work means.

15000. Take the practical work of milking, is it not well that they should begin at a very early age? Mr. L. SENEZAC.—The average of the girls coming here is about twenty.

Witness.—I think the mere process of milking is not a very difficult thing to learn.

15001. Mr. STRUTHERS.—I have often heard it said by farmers that you never learn to milk unless you learn when you are under twelve?—Oh, I don't think so, I have had as many as thirty women milking in one house abroad, and some of those had been taught when they were as old as twenty-five or twenty-six.

15002. CHAIRMAN.—And never milked before?—Well, they might have milked a cow, but we had to teach them de novo.

15003. Mr. STRUTHERS.—And they milked to your satisfaction?—Yes.

15004. About these experiments, you said the difficulty was that you could not get sufficient support to carry them on?—Both as regards money and assistance.

15005. Could they not be carried on by people having an interest in them and subscribing?—I don't think they could.

15006. If they were going to be of any practical benefit to the country?—No, I don't think people go in voluntarily for education at present, we had at first to pay the dairy pupils to come here, we know now the Commissioners of Education will be only too happy to give us any assistance.

15007. In Denmark the principle of the State is not to institute a technical school or any kind of school directly, but to give it a subsidy?—Denmark was altogether under Professor Ford, who was practically the most scientific man in Europe at the time, and all his experiments were carried out by the State, he experienced all the difficulties we feel here, on a smaller scale, and the way he got his money was that certain Government officials came to visit him, and he filled his laboratory with all these things that were most disorganised. They said "This is very terrible," and he said "Gentlemen, if you don't give me money to carry on my experiments, these things will occur," that is an absolute fact.

15008. Perhaps you could give us a memorandum on your experience of dairy and agricultural schools, in Sweden?—Certainly I could, if you give me a day or two I will send it in.

Court :
Oct. 4, 1897.
Mr. Richard H.
Stewart.

Mr. JAMES BYRNE, J.P., One of the Governors of the Minister Dairy School, examined.

Mr. James
Byrne, J.P.

15009. CHAIRMAN.—The Commissioners would be very glad if you would give them your opinion as to the value of the agricultural education at present carried on in the primary schools in Ireland?—Well, I don't think it is satisfactory, I don't see how it could be satisfactory, because as a rule the teachers have no kind attached to their schools, and even if they had I think the greater number of them know very little about agriculture.

15010. And you include in those the teachers who have been through the Glasnevin course?—Well, even so, I don't suppose they could become at all expert agriculturists by attending a course in Glasnevin.

15011. Do you think it is worth while continuing the system, and trying to extend the principle of garden plots, which I believe are eighty-two in number now, and the school farms, which are comparatively

few in the country?—I do not see any objection to them.

15012. Do you think there would be any distinct good in doing that?—I think in some cases if the teacher had a liking for that sort of work, and took a practical interest in it, it would do good. But I think a great many of the teachers would not.

15013. Supposing the State advanced the money to buy a school farm, it may work very well as long as a particular teacher was there, but when the teacher was changed and a new one came who might not have the taste for it, the thing would be thrown away?—I remember when we had a great many model farms throughout the country, and they did not seem to be successful. I don't know whether it was that the Government of the day grudged the money for them. I am not quite sure that they were so unsuccessful, but I remember a great outcry was raised that they were

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not self-supporting institutions, and did not pay their way the same as ordinary farms. I don't think that could ever be expected, because the work of pupils, although you may get it gratuitously, is never as valuable as the work of paid hands, because when they are beginning to do this work they often do a great deal of damage in harning.

15014. Mr. RANDEVOOR.—You live in a rural district?—I do.

15015. I suppose you are acquainted with the theoretical teaching of agriculture in the schools?—I know the school books that are taught there.

15016. Do the boys gain much advantage from the study of these books?—I think they certainly do, a share; I know my youngest child, about twelve years of age, when he reads up the school book he puts a whole lot of questions to me on agriculture, which, perhaps, he would not have put otherwise. I think the teachers, if they had gardens, could create a taste for the growth of flowers and vegetables.

15017. Would it be an advantage if the teacher illustrated the book by bringing the boys into the fields and showing them the plants they read of in the book?—I think so, provided the teacher had a taste for that sort of work. I also think little measures containing chemicals, plants, and specimens of rocks, should be supplied to primary schools.

15018. Do you think that it would be well that they should learn a little agricultural chemistry in schools?—I think so.

15019. If they have not learned it in schools would they not be unable to follow the experiments described in the agricultural papers?—Yes, and I think if they came afterwards to a school such as this they could learn much quicker.

15020. Of course the majority of children could not

come to a school such as this, but the teachers could teach them in the ordinary schools the elements of botany, geology, chemistry, and physics?—Yes.

15021. You would approve of that?—I would.

15022. Are there any school gardens or school farms in your neighbourhood?—No.

15023. So you have no practical knowledge of their value?—There was a model farm not far from my place at Farnley, but it was sold out. It was one of the Government schools.

15024. Mr. MOLLOY.—You said that the Glasnevin Farm Establishment, you thought, was not capable of qualifying persons in agriculture?—No; for the length of time I say they are there, and the few lessons they get there, I mean the National teachers.

15025. A master of a National school going up for six weeks, that period, in your opinion, is insufficient to qualify him for giving practical instruction on the farm?—I think it is insufficient.

15026. What period would you think suitable?—I know it is generally laid down that a man cannot have a fair knowledge of farming without being two years engaged in practical work.

15027. Would not that mean that the master should give up his school during that time, and go into a college for agriculture, and he might later on get charge of a town school in which that education would be useless?—I don't think it would be practicable that all our teachers should spend that time in getting a knowledge of agriculture, but the knowledge they derive must be very superficial.

15028. Mr. STRUTHERS.—If they had to attend two years at Glasnevin, do you think they would be likely to continue teaching in that; they might take to some other occupation?—I don't mean they should ever be asked to do that.

THIRTY-FIFTH PUBLIC SITTING.—SATURDAY, OCTOBER 2ND, 1897,

AT 10 O'CLOCK, A.M.,

At the Imperial Hotel, Cork.

Present.—THE RIGHT HON. THE EARL OF BELMORE, G.C.H.G., in the Chair; THE RIGHT HON.

C. T. REDINGTON, M.A.; REV. HENRY EVANS, D.D.; REV. HAMILTON WILSON, D.D.; STANLEY HARRINGTON, Esq., B.A.; W. B. J. MOLLOY, Esq.; and J. STRUTHERS, Esq., B.A.;

with J. D. DALY, Esq., M.A., Secretary.

Rev. Brother BURNES, Superior, Christian Brothers' Schools, North Monastery, Cork.

Rev. Brother
Burnes.

15029. CHAIRMAN.—You are the Superior of the Christian Brothers' School in Cork?—Yes, my lord.

15030. Will you favour the Commission with your opinion upon the advantages of drawing to children in the elementary schools?—Well, I consider drawing of the greatest possible importance to the boys in elementary schools; it is, I think, in importance next to the three R's, and may fairly be ranked with them, and I find that the opinion is entertained by all the great educators—they are all disposed to rank drawing with the three R's, and to make it compulsory in all primary schools. It has a wonderful effect in refining the children, cultivating their taste, and giving them accuracy of eye and precision of hand, and I think it is a very excellent manual instruction. It could rank with the Sloyd system, and next, of course, form the basis of it. There can be no Sloyd or manual instruction system without a previous knowledge of drawing, at least as far as the 5th standard, under the South Kensington; that embraces drawing to scale, and we find in the manual instruction classes that all the articles made by the pupils must

be first drawn to scale before they can attempt to execute anything in woodwork by means of tools, and the effect of this knowledge of drawing, and of this accuracy in their work in the Sloyd or manual work system, must have a wonderful effect upon them altogether. Then I think also that drawing, like the manual instruction system, has a very great effect in giving children novel habits of attention, and neatness and precision, and intellectually great refinement, and I notice in our own schools, where drawing is taught, that it has that effect upon them individually, and I can even find that it influences their home life also. Then we have industrial schools, in which there are some 2,000 boys—boys taken of the streets—and in all these schools we have introduced drawing in connection with South Kensington—we have Artians, in Dublin, for instance, where there are 800 boys, and I learned from the Superior there that they have got the award "excellent" for the last three years for these 800 boys, and he says the effect of the drawing upon them when they go to trades—for these boys learn trades—is very great indeed, and that it has a wonderful effect in refining them—so

that I think drawing should form a compulsory subject in all primary schools.

15031. Is it your opinion that manual work is a practical way of giving effect to the knowledge of drawing which has been previously acquired?—Yes, my lord, I think that the manual work, being dependent on the drawing, will have a very great effect in showing the practical utility of the drawing, and in giving effect to its advantages in every way.

15032. Do you attach great importance to manual and practical work?—Very great, indeed, I should like to see it introduced into all primary schools, but there are, of course, many difficulties in the way to its introduction, and at present I do not see that it can be made compulsory. Manual instruction implies the training of the teachers to the use of tools, and, of course, they must have a knowledge of tools as a preliminary. Now, there is expense attending it, too; for I cannot see how it can be carried on in the schoolroom, where the ordinary subjects of education are taught. And then you have tools and raw material to provide, all these being provided, I cannot see how a teacher—as the system at present exists, as the National system exists—can carry on manual work, even if he had a workshop for it. I think the great thing to be done is to begin on a small scale, begin in the centres of population, start schools, and let the teachers see how it can be done, and what it means; and then let them gradually undergo a training that will fit them for the carrying on of the Sloyd system, or the manual instruction, but I think the first thing is to have the teachers, as far as possible, taught drawing, and I find that it is now introduced into the Training Colleges, and manual work might follow that in these institutions, and prepare the young men, who are to become teachers, to carry on the work.

15033. Would you make it compulsory in the Training Colleges for the teachers to take manual work?—I think it would not be well to make it compulsory in the beginning, even in the Training Colleges, but to introduce it gradually—there is at present a certain objection to it, arising chiefly from its nature not being perfectly understood, and I think the first thing to do is to get rid of that prejudice, and I think that the seeing of the manual work carried on in the Colleges and in some centres, such as Dublin, Cork, Waterford, Limerick, Belfast, and Galway, would be of great importance, and make the teachers take an interest in it, and induce them, after getting this training to carry on the work. Many of the young men having the prejudice will not enter into it as warmly as one would desire, but I fancy as soon as they really see the nature of it and that it can be done, it may be made compulsory. With regard to the schools, the Irish teacher is at a certain disadvantage, he differs in one respect, I think, from a teacher in England and Scotland, as far as I can understand those teachers have their salaries secured to them before they commence their year's work at all, they engage themselves, and they can enter with spirit into the programme as laid down for them by the governing body in the different places through England and Scotland; but in Ireland the teacher's salary is only partly secured to him, the remainder depends on his results, and he is of course very anxious about those, and necessarily so, and I believe that such a programme laid down for him as will enable him to undertake both drawing and manual work with ease, faith to himself and security to his temporal interests, he will not enter on the teaching of these subjects as warmly as we should desire.

15034. When we were in Sweden we examined Herr Salomon, whose name is familiar to you, no doubt, and he was asked this question—

“Do you consider it essential that the teacher should believe in Sloyd?—Certainly, better no Sloyd at all, than Sloyd taught by teachers unwillingly.”

Do you agree with that?—I do, I believe no work is well done in which the teacher is not interested

himself, and he will never be interested in it until he studies his own mind that he confers nothing by its introduction and the carrying on of it, and also until he is well prepared to carry it on. I think if you had Sloyd classes or manual instruction classes in centres, and that the pupil teachers and the young teachers generally were influenced to come and attend these, so they do, I find, in Leeds, Liverpool, Manchester, and other cities in England, that a great deal would be done towards its gradual introduction.

15035. What is your opinion with regard to the value of elementary physical science and elementary chemistry in primary schools?—Well, I cannot, I think, my lord, speak too highly of the advantages that would accrue to the boys generally by having an acquaintance with the elementary principles both of natural philosophy and of chemistry. I think it most desirable that a beginning should be made. But the introduction of these subjects too will be attended with some difficulty.

15036. Are they not introduced as present in places like Cork and the large towns?—I think not, my lord. You see you must have the teachers trained to the manipulation of both chemical and physical apparatus. It will not prepare the teacher to have learned from a professor, or to have heard his lectures and passed an examination, he must actually know how to manipulate the instruments. The experiments that would be necessary to illustrate the simple principles of either natural philosophy or chemistry would not require very great manipulative skill, and I think if a portion of the training time in the colleges was devoted to teaching students how to handle instruments that would illustrate the simple principles, that you would then be prepared to introduce it extensively into the schools of Ireland. I consider a £5 set of chemicals would do for an ordinary school; you would have both the apparatus and salts and other substances necessary for experiments, and something like two dozen or two and a half dozen of well-selected experiments on the nature of water, of the atmosphere, and the nature of gases and some other substances, which, when understood, would be quite sufficient to give the boys a general interest in natural science and encourage them to carry on these studies in after-life. Then to introduce physical science, I find that it would be necessary to have at least about £30 worth of apparatus to illustrate simple mechanics, hydrostatics, electricity, magnetism, and a few experiments on light and heat. So that the introduction of it requires this as a preliminary; and I think then that the great point would be to begin in the colleges and have the teachers trained to the use of instruments, and the way of explaining experiments and working the apparatus before the children, and then to have centres where those that are already engaged in the teaching profession could attend and learn. There are a few things that cannot be easily learned by teachers who are for any length of time engaged in the work of education. Drawing, if they have not got a knowledge of it in early life, is very difficult; just like music or the playing of instruments, they must have learned in early life; I think then that great allowance must be made for the teachers generally. They must be encouraged, and I think this would do more to promote the introduction of these new subjects than any other means. Compulsion I think cannot come on for drawing, physical science, or manual work for some time.

15037. Rev. Dr. EVANS.—Brother Burke, would you make drawing necessary to all teachers from this forward in order to get their certificate?—Well, when you say to make it obligatory, I think that is going very far, because many of them may not have the taste for drawing; but by degrees, as the course of a few years, it may be made so, because you can have the pupil teachers and the young candidates previously prepared before entering into the training colleges, and then I think that it may be made compulsory.

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Rev. Bishop
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15038. You, I think very properly, remarked about the indulgence that should be extended to old teachers, but would you extend that indulgence to new candidates?—I would not after a few years, but I would make some allowance for those who have not the taste developed up to the present. You have students in the colleges, perhaps, who never learned drawing, and they are now twenty-one years of age, and to begin that subject now, and make it compulsory for their certificate, I think would be very hard upon them; but I think by having drawing compulsory on the young boys going on for the profession, you may afterwards make it compulsory in the colleges.

15039. Mr. Hanameter.—Would you tell us the number of pupils that are engaged in your schools that we saw yesterday?—You saw, I think, about a thousand yesterday at Our Lady's Mount; but besides those boys we have two establishments, one at Sullivan's Quay and another in Blarney Street; we have 300 in Sullivan's Quay, and 350 in Blarney Street.

15040. And your experience goes over a long period of years?—I am, I may say, forty-five years connected with education in the city.

15041. Does your school receive any State aid except what is earned by results in connection with the Science and Art Department?—Yes, what we get by results from the Intermediate. For the primary department we have nothing but what we receive for the drawing from Kensington. We passed, I think, 1,400 from the three establishments this year and got the award "good."

15042. How is your school maintained then?—We have a foundation, and a few benefactors left bequests; then we have an annual sermon and collection.

15043. Entirely voluntary?—Voluntary contributions.

15044. How did you provide the industrial museum that impressed us so much yesterday; was it from your own funds?—I may say that all you saw yesterday in the various rooms, all the articles and specimens the Commissioners saw, were the gifts of manufacturers and friends. Some ten years ago I myself went around to various manufacturers in this country and in England and many in Scotland, and I have to say that they received me most kindly and entered fully into my ideas about the giving the boys of the rising generation a knowledge of the raw materials, processes, and finished condition of articles in the various manufactures.

15045. But to provide the ordinary National schools through the country with a museum on a smaller scale, what do you think would be the approximate cost?—I think it would not be much, because it could be done by the Commissioners; they could arrange to select a certain number of manufacturers that they would wish to have illustrated, and to make an arrangement with the manufacturers for a supply of the raw material, specimens of the different stages, and some finished articles. I think they would get them at a very moderate price, and many of the manufacturers are actually disposed themselves to supply specimens showing the development of the articles they manufacture. Now, for instance, from a gentleman near Leeds, I got for 5s. a beautiful card of silk illustrating from the cocoon up to the finished article; he charged 5s. simply to cover the fitting up of it, but I think the rest must have been supplied by his own generosity from a desire to have the children get a knowledge of the growth of silk, and he supplies this, I have learned, to any school that applies and sends him that amount of money, and such card would be quite sufficient to give boys in elementary or higher schools a very good knowledge of the growth of silk and its manufacture.

15046. We, of course, saw ourselves yesterday a demonstration in connection with that museum system or yours—what do you consider its educational value?—To what do you refer?

15047. The industrial museum?—Well, I found from conversation with the men engaged in the

various trades that they had very little knowledge of any other branch of industry or manufacture outside what they were employed in themselves. And it was that that led me to collect these specimens, and I now find that the great value arising from it to the youth and the men who come there during the week and on Sundays, for we leave it open to them to come and see it at all times, is that their minds are expanded, and certain prejudices which they had in favour of their own business and trade has been done away with by seeing the wonderful work that can be produced from materials that look very clumsy and have very little attraction in them, and it expands their minds and gives them a great idea of human ingenuity and manipulative power on the part of men engaged in the trades, and that in itself is educative.

15048. I suppose the same advantage would be derived from the introduction of elementary science into the schools?—I think so. I don't believe there is anything in which boys take a livelier interest than seeing the laws of nature illustrated.

15049. Have you had experience of their careers afterwards—have you been able to observe in their careers the use of this elementary science teaching in your schools?—Yes, we have traced it all over the world, I may say, in boys who have left our schools and gone to the different nations where the English language is spoken; we find their knowledge of science and of elementary chemistry is of great importance, and this knowledge has placed many of them in better circumstances than they could otherwise have attained.

15050. In what class do you commence elementary science?—We begin at the 4th standard—we use for object lessons those cards you saw containing the raw material and the finished article. In each room we make all the children in the room acquainted with all the objects in the cases, and as they progress from hall to hall they get an extended knowledge of the whole. The children you saw in the Junior school will next year be in another room, and so on. Boys in the 4th standard are about ten or eleven, and are fully capable of comprehending the fundamental principles of physical science and the simple experiments in chemistry.

15051. I think you said you had upper classes in connection with the Intermediate Board; does that science teaching extend to the upper classes?—In the schools it does. The boys that I lectured on physical science yesterday before the Commission were Intermediate boys in the Preparatory and Junior grades, and we give these classes lectures in the schools, but they are not examined very extensively under the Intermediate Board in these subjects for this reason. There are four grades in the Intermediate system—Preparatory, Junior, Middle, and Senior. In the Preparatory grade, which embraces boys from twelve to fourteen years, physical science or chemistry will not be allowed, they are not on the programme. There are 6,000 marks for language, 1,800 for mathematics, 300 for drawing, while physical science and chemistry are not recognized at all.

15052. It is like bringing a horse to the stream and not allowing it to drink?—We made proposed recommendations to the Commissioners on that point, showing the importance of having a child begin at twelve to learn physical science and the elements of chemistry, but for some reason they did not see their way to introduce it. The disadvantage is this, that when they come on to the Junior grade, not having taken up Natural Philosophy or Chemistry in the Preparatory, these subjects are not taken up in the Junior, Middle, and Senior—so that I may say, not 7 per cent. of all the successful boys passed in natural philosophy, and out of 2,440 boys that passed this year in the Junior, Middle, and Senior grades only 14 per cent. passed in philosophy, and 7 per cent. in chemistry.

15053. Don't you consider it a great disadvantage to the country at large, that the education in

elementary science existing in your primary schools is not continued into the upper schools!—I consider it a very serious matter, very serious indeed; because when you consider that the boys who are receiving Intermediate education through the country are the sons of gentlemen farmers, the sons of merchants, the sons of manufacturers, and that those boys leave their colleges and schools without a knowledge of the elements of physical science and chemistry to enable them to understand all the processes of the manufactures or businesses in which their fathers are engaged is a very great evil indeed. Take the boys of the Preparatory grade: they are fourteen years of age before they begin the Junior; only 700 boys in the Middle grade, and 300 in the Senior were presented for examination, and only half of the Middle candidates and half of the Senior passed, so that the remaining thousands have gone to business after sixteen years of age, without ever having, I may say, got any knowledge of physical science or chemistry.

15064. Turning for a moment to the question of manual instruction—could you give us a definition as to what the difference between technical education and manual instruction is—we are rather in want of a good definition of it.—It struck me when this Commission was appointed that if the Commission was of no other advantage to the country than to make this known, and of course importance to be attached to it, I think the Commission would have done good service. As I understand manual instruction, and as I have seen it carried out, it is an educational process, and purely educational, and the trades seem to have in many cases a misapprehension as to the nature of manual instruction; they fancy that it is an encroachment on their principles, but this is altogether a mistake. In manual instruction the best teacher is the teacher of the ordinary subjects in the primary school, if he be only qualified by having a knowledge of drawing, and a skill in the manipulation of the tools necessary for such instruction. He is a better teacher than an artisan or a mechanic, because the mechanic will not look at the educational advantages of it, and the teacher does. Now, in manual instruction we never look, as far as I can see, and have seen, so much to the work done, as to the effects produced upon the boy's mind. Of course if his work is well done that is an indication that his eye has been educated to precision, to exactness, and that his hand is dexterous in giving effect to what the eye requires, and that his mind has applied itself to what he is doing, and then is the great result to be obtained from manual training. Moreover it has a wonderful effect on the boy himself in developing many moral qualities, and a great many other advantages, such as the cultivation of his mind, and the physical exercises he has to go through, and it is a substitute in some way for physical drill. Then, in after-life its advantages are very great to him, because it will give him a respect for labour, accustom him from childhood to a love of labour, and at the same time it will indicate what business he would like to follow when he leaves school; he will see if he have a skill in constructing the little models required, whether he is fit for mechanical work or not, and every boy to trades, for which they have no vocation, and never excel in those trades, as if they had had this manipulative drill, first, in this kind of education or manual instruction, they would have had early proof of their want of ability in this direction.

As to technical education, I take it to mean the teaching of the scientific principles which underlie any particular trade or manufacture.

15065. I think you contemplate, you told us yesterday, erecting a special building for the purpose of introducing this manual instruction into your own schools?—For many years we have had a desire to do so, but means were not at hand; but among the importance of it, almost the absolute necessity of it,

introduction into all the schools of the British dominions, if these countries are to hold their own against other nations, we were most desirous of starting it, and our Superior-General encouraged the Brothers in the two places that have taken it up.

15066. Which are those two places?—Limerick and St. Vincent's Orphanage, Glasnevin, Dublin, which is under our Brothers. When I proposed to him to get up this school, he was, I may say, much interested about the matter, and most desirous that it should be erected. I proposed that we should erect it as a memorial school to Gerald Griffin, who was for a time a member of our Institute, and is buried in the little cemetery in our grounds. This idea was warmly taken up both by him and others, and we have now determined on doing so. We hope that throughout the world where there are admirers of Gerald Griffin and his works we will get subscriptions from them, and thus be able to erect and equip it; indeed a clergyman from America, who called to see the schools lately, when I told him about the project, told me to put him down for £100, and he also mentioned there was a friend of his in America, an old pupil of the schools, who would, probably, give the same sum, so we have made a good beginning.

15067. Mr. HARRINGTON.—(If the National Board decided on introducing this manual instruction into their schools, do you think they would have a better chance of getting funds from the public or from the Treasury?—Well, I think you might get aid from both.

15068. You might hope for it from both, and get it from one.—I think the Government would be disposed to enable the Commissioners to start the schools; and once started I think the public would take an interest in them, and by additional assistance from the Government, and subscriptions from the public, the work would be sustained; but the great thing the Commission has to do is to get both the drawing and the manual instruction introduced, and, once started, I think the project is on the fair way to success.

15069. Mr. STEVENS.—We had yesterday a statement by one of our witnesses that one great difficulty in training boys in an advanced school is the want of accuracy that Irish children seem to show, according to this witness. You think that the teaching of drawing would help to train the children in habits of accuracy?—I have no doubt of it.

15070. And also that manual instruction is exceedingly valuable in that way?—I think it is the complement of the other—an extension of it.

15071. If they had that training they would not be so likely to disregard an eighth of an inch, or a quarter of a lb., and measure things by the bucket instead of by scale?—I don't think such a thing would be possible if we had teaching in those two branches, that is, drawing and manual instruction.

15072. For that reason, among others, you think the introduction of these subjects very desirable?—Most desirable.

15073. So desirable that you would ultimately make them compulsory?—I think in the course of time they might be made compulsory.

15074. But at present you find certain obstacles in the way?—I do.

15075. One of them being a prejudice on the part of teachers, and the other the difficulty as to payment?—I would not lay too much stress on the prejudice. I think the teachers are intelligent enough from what I know and hear of them. There is a prejudice, but not to any very great extent. But I think, from the position that they are in with regard to their salaries and to the sources of those salaries, that some difficulty would arise. You see the teacher who is dependent on results is in a precarious condition during the year and as long as the week that he sees before him is not definite

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enough for him to calculate on his income, he won't take that interest in it that he otherwise would, but if the programme under the Board were so arranged that drawing and manual instruction could be introduced without disadvantage to him, then the teacher would enter into it very heartily. The subjects already in the programme of the Board are compulsory—there are a few class subjects which are not—but I take the fundamental subjects, those are compulsory, being so, of course he must apply all his energy to secure success in them; but I think there is room in those subjects for a good deal of didacticism without interfering at all with the education that a boy would receive, or would have received, up to the age of thirteen, at which age, generally, he must leave school. Now, for instance, you have extensive grammar, very difficult parsing, you have intricate arithmetical operations, and you have extensive geographical memory work to be gone through, and a great deal of this could be eliminated without any disadvantage whatever—I would say with good results and great advantage both to the teacher and pupil; for instance, the lengths of rivers that a boy will never hear much about afterwards, the parsing of difficult sentences from the poets, and very difficult questions in decimals and stocks, and even in proportion—so, for instance, a train starts from Maryboro' at such an hour and at such a speed, and after an hour and a half another train starts from Kingsbridge at a certain speed, where will the latter overtake the former? Well, for boys who have to go to business at fourteen years of age, I do not think that that kind of knowledge is at all necessary, but they could have a very nice equipment in reading, writing, and arithmetic, the substance of the lessons, the writing of a nice letter, and general intelligence, which would be a better outfit for their future than a knowledge of abstruse or difficult matters, from which they would derive very little advantage after leaving school.

15066. Do you think that those subjects of grammar, geography, and arithmetic might be modified, you said eliminated?—Modified is what I meant, and, I think, with advantage, it would leave the teacher more free and the children would be less hampered.

15067. But you would not propose to do away with the teaching of grammar altogether?—I would not.

15068. You regard it as having a certain value in developing intelligence?—Apart from any advantage in letter writing, which the boy will have to do through life—I think the intellectual openness to be gone through in the parsing of simple sentences is of great importance to the boy.

15069. Might not the same be said about that arithmetical problem, that, although not practically useful, it is useful in developing intelligence?—I would say a great many more problems, involving not the same amount of mental labour, would be of more importance to him. Then there is another great disadvantage in primary schools, Irish, English, and Scotch, we have a very great difficulty in the compound rule tables, all the weights and measures are very great labour to a boy and to the teacher, difficult sums in weights and measures, reducing so many millions of inches to miles, and things of that kind. On the Continent the decimal system is used, and it is of so simple a nature that the Continental boy has a very great advantage over the boys of these countries in calculation.

15070. We have had lengths of rivers and heights of mountains given us as specimen questions of examination in geography. Do you know that such questions are actually put by the inspectors—do they ask the length of the Ganges, and of the Mississippi, and the height of Ben Nevis, and so on?—I think they do, and I would not object to a few questions on the principal rivers and mountains and other important points.

15071. I ask that question because, as far as my

experience goes, I should think it exceedingly improbable that any inspector in Scotland ever asked such a question in geography, but these questions are asked here—I think so. I suppose the inspectors are obliged to carry out the programme, and I think it is the programme that requires modification.

15072. Does the programme specify the lengths of rivers and heights of mountains?—I should think it does, the inspector must have some guide for the questions he feels himself bound to propose. I don't think he would voluntarily, or of his own inclination, propose these difficulties to the boys. The programme could be modified with great advantage.

15073. Owing to the difficulty of introducing them, and the want of knowledge of these subjects, you would have drawing and manual instruction introduced gradually?—I would have drawing introduced at once, but not compulsorily.

15074. I would quote from Herr Salomon's evidence. The Chairman asked—"To come now to Ireland, how would you propose, advise, or suggest to introduce Sloyd there, where we have about 8,000 schools?" And he replies—"I would say it would be the greatest mistake for you to introduce Sloyd into 8,000 schools all at once, my next year. This mistake was made in Norway and France, and the result has been unsuccessful." Then he says—"If for the first year you train teachers in England, or here, for a year, let those teachers go into schools and practice the work, and when they have practised select the best and make them teach the other teachers. I would introduce Sloyd the first year into say twenty schools, the second year into 100, the third year into 500, and perhaps in ten years you would have it in 4,000." That is somewhat your idea?—I may say that would almost fully represent my idea about it.

15075. Do you think it desirable to have manual instruction, drawing, and experimental science taught in every school?—I think it most desirable.

15076. Each has a special value?—Each has a special educative value.

15077. You could not get the full result you wish by teaching drawing simply and science, and leaving out manual instruction, or by teaching science purely and leaving out drawing?—I think not. You cultivate the eye and hand by drawing. You cultivate the eye and hand and reflective powers by the manual work, but when you come to physical science you deal with the world around the boy, you deal with the laws that govern the universe, you deal with the phenomena that he witnesses every day, and you give him an insight into the constitution of the matter that is about him, and that he is actually handling, and I think that kind of knowledge can never be supplied by either the drawing or the Sloyd system.

15078. If you teach all those three subjects, that means a considerable addition to the present programme?—Any one of these means a great addition to the present programme.

15079. And all three combined must mean a still greater addition?—I think it would mean more than a full day's work for a teacher in addition to what he already has.

15080. So that it would be absolutely necessary that instruction in other subjects should be modified in some way?—Certainly, absolutely necessary, and I am convinced with advantage to both; the advantage to the teacher and the boys, and therefore to the country, would be very great indeed by eliminating or curtailing some of the matter already on the programme with regard to "The Three R's," and introducing the other subjects even on a small scale, it would make the education of the boy round about more harmonious—it would develop all his powers.

15081. One obstacle you mention to the introduction of manual training especially is the expense of the apparatus; it is much more considerable than in the case of drawing?—It is, because you require

a workshop; you cannot carry on the operation in a schoolroom; the hammering, sawing, and planing would interfere with the other boys.

15082. You could not expect managers in poor districts to go to the expense of introducing those subjects into the schools without considerable direct aid from the Commissioners on the State?—I think managers generally would take a very great interest in the matter, if they got any pecuniary assistance in the way of facilitating the work.

15083. Yes, but some special assistance would be needed to initiate the business and secure the apparatus and workshop apart from any annual grant?—It certainly would, the country is rather poor, and a difficulty would be experienced in getting money for a work, the value of which the people generally do not at present understand, but when the work would have gone on for awhile no doubt the difficulty would have become less and less.

15084. Mr. MOLLAT—You express a decided opinion in favour of the ordinary teacher being the person able to give most successfully the instruction in manual work?—I am decidedly of that opinion.

15085. Rather than a skilled artisan?—Rather than a skilled artisan; but I can conceive cases in which the skilled artisan would be as competent as the teacher of the ordinary subjects in the school, because if he have a knowledge of drawing and a command over children, he can carry on the work well; but most mechanics have no control over boys, and their time with the boys, unless the teacher be present, would certainly result in no advantage whatever to the children.

15086. You think also that the ordinary teacher should acquire a knowledge of that special subject in technical colleges and central schools?—I believe that is the only way you can begin.

15087. And with regard to the central schools, what kind of schools do you speak of—do you contemplate separate buildings or the largest school, supposing, in a particular locality?—The perfection of the system would be to have schools created for the purpose and to encourage the teachers to come to these centres and receive from competent trained teachers in mechanics all the instruction and skill required to get their diploma, but as that would entail a great deal of preliminary expense I think that some of the schoolhouses might be availed of at present, or some disengaged house rented, and the work commenced there.

15088. Simultaneously with carrying on that work in connection with training colleges, would you be in favour of itinerant lecturers on physical science, going round to a number of centres, bringing apparatus with them, and giving instruction to teachers, and also senior pupils?—That is actually done in London, and I think it could be carried out in this country too, though I know that the teachers would much prefer to be in a position to discharge that duty themselves; yet I don't think that they would object to these lectures, in fact I think that they would encourage such a means of giving knowledge as the only thing that could be done for some years until they were qualified.

15089. I am glad to say that many years before they started that practice in London or any other part of England, the Irish National Commissioners had it in full working order under a Dr. Clarke, who, with a number of assistants, travelled in various parts of the country, brought physical science apparatus, left some behind where there was a qualified man to continue the instruction, and in that way teachers and senior pupils got a knowledge of the subject. That could go on simultaneously with the training in colleges you spoke of?—No doubt it could, and I remember suggesting, at the time of the Cork Exhibition in 1883, to some of the gentlemen on the committee—I met them in the Exhibition and we had a talk over matters connected with the development of agriculture especially—and I mentioned these itinerant lecturers as a very great means of interesting and

enlightening the young men and women through the country on the new processes of making butter and doing other dairy work, making them acquainted with the nature and use of the barometers and hydrometers, and other suitable apparatus. I find the County Councils in England are using those lectures on a very extensive scale. Take Yorkshire for instance. They have a number of professors for each Riding giving lectures on agriculture and elementary science, and using the limelight lanterns, with slides prepared by the instrument-makers for the purpose of showing them the nature of plants, the growth of plants, the diseases of plants, and other matters of that kind so essential to farmers, and the same could be done in Ireland until such time as you would be prepared to erect schools in the various centres, especially in the rural districts.

15090. Rev. Dr. WINNER—Are the pupils that attend your schools chiefly residents in the city of Cork?—I may say all. We have a few pupils, perhaps not more than two dozen, who are sent in from the country, and who reside in Cork to get the advantage of the higher education which we give.

15091. What is the average time that the pupils spend at your schools?—From the age of six to sixteen, a very small percentage remains until seventeen, but I think that if the country had manufactures and were more prosperous than it is, that we would not have even so many of them up to that age.

15092. The ordinary time spent at a National school would be insufficient to teach all the necessary subjects, and also what you add to them, such as manual instruction and physical science, and so on, but you have time enough for your work from six to sixteen years of age?—Yes, we have abundance of time for the introduction of all the extra subjects, but I think if they are to be done in the Board's schools a modification of the existing programme must be made, and it will then meet many of the requirements.

15093. Mr. RAMSDELL—Are you familiar with the science programmes of the National Board?—I have some knowledge of them.

15094. Have you any criticism to make upon them?—Of course, science taught without experiment and very little advantage, one experiment performed before the classes, before the boys, will give them a far deeper impression of what it is to be conveyed to them than pages of book learning, and I think that is one of the defects in the teaching of agriculture in the Board's schools. I have always been of opinion that two dozen experiments on the nature of the atmosphere, the nature of water, the nature of carbonic acid gas, and of minerals, and a few experiments on the soils, would be of immense advantage to the agriculture of the country, and would do more for the pupils than volumes of book learning without the experiments. But I would not dispense with the books. I have looked over the Board's books on agriculture, and I think that by a modification of them, a simplifying, and putting the matter in a more attractive form, they could be much improved, they are very crowded at present, a book closely written has no attraction for a boy, but I would have the matter—which is excellent of its kind—modified and put in a more attractive form, together with two dozen of simple experiments, and thus I think a great deal would be done for the teaching of agriculture and agricultural science through the country.

15095. Do you think that children could learn sciences in a lower standard than the fifth?—They could in the fourth; when they are well grounded in the subjects up to the fourth, I think their minds are very well prepared and open for the reception of the elements of either physical science or chemistry, of course anything very abstract they cannot comprehend; they would enjoy experiments and admire

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them, but I don't think they would produce effect unless the children were of a more mature age.

15096. Do you think boys of the fourth class could be taught elementary chemistry?—I think so, but of course when you say "elementary" you must confine it to very simple experiments. If you tell a boy, for instance, the nature of the atmosphere, that it consists of oxygen and nitrogen gases in the proportion of one to four, and then if you pass air over red-hot iron in a tube you disengage the oxygen, and he gets the nitrogen in the gas receiver or vessel, then you show that this nitrogen will not support combustion, I think you give him a very good idea of that gas; then if you secure the oxygen of the air, and show him by a simple experiment that it will support combustion, he will comprehend it quite sufficiently.

15097. With regard to agriculture, you would not continue the present mode of teaching it, but would like to combine it with practical instruction in elementary science?—Yes, I should like to see experiments performed, and I think the teachers would find a very great delight themselves.—I am confident they would—in performing those necessary experiments. They would not be very elaborate, the apparatus is not

very much or very expensive. As I mentioned, I think a £5 set would meet all the expenses of the teaching of elementary chemistry in each school, and of agriculture in the rural districts; but I think a museum, a case of seeds, and of the same, and of the plants to a limited extent, would, of course, be very interesting and very useful to the children.

15098. We were very much interested in what we saw in your schools yesterday in that respect?—We find the working people who visit the schools are very much interested in the specimens. I may mention that in our schools here we prepare many of the boys for commercial life in a great measure. A large number of our boys engage in commercial pursuits, merchants take them as clerks, and they are employed at the various establishments in the city in one capacity or another. Hence we find that the teaching of shorthand, and of book-keeping, and of drawing, and also of elementary science, is of great advantage to them. At the recent Intermediate examination, 70 of our boys passed in shorthand, 80 in book-keeping, and 118 in drawing, this number was independent of the 1,400 that passed in Kensington in the elementary drawing.

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Rev. CANON POWELL, D.D., Honorary Secretary of the City of Cork Church School Board, examined.

15099. CHAIRMAN.—Would you kindly state in what capacity you appear here?—I appear, my lord, as Honorary Secretary of the City of Cork Church School Board.

15100. With you explain to us exactly what that Board is?—That Board was constituted some years ago under the Educational Endowments Act, and it is working under a scheme, of which I may hand in a copy (produced). It has control of certain primary schools in Cork, and of the grammar school; I come to speak more with regard to the primary schools than with regard to the grammar school.

15101. We are dealing only with primary schools here?—We have under our Board ten primary schools, three are boys' schools, two are girls' schools, one of them is an infant school, and four are mixed schools, and they are attended, roughly speaking, by about a thousand children, of whom 300 are boys and 700 are girls and infants. And I may just hand you in also a report for this year of the work of the Board, and also a summary giving a statement of the total numbers attending (produced); there is a schedule giving the details with regard to each school, the name of the teacher, the classification of the teacher, the number on the roll, the average attendance in the school, the results of inspection by our own Diocesan Board of Education, and the results of inspection by the National Board of Education.

15102. We should be glad if you could give us a statement of the instruction given in various subjects in the schools under your Board?—In four of the schools kindergarten instruction is given; in none of the schools is advanced kindergarten given, nor do we give manual instruction in any of the schools; drawing is taught in nine schools, that is every school except the school which is exclusively an infant school, but kindergarten is taught in that school, and there also the drawing connected with kindergarten instruction. Elementary science is given in one, agriculture in one, needlework in seven, cookery in four, domestic economy in two.

15103. What do you call domestic economy?—How do you define it?—There is a book on domestic economy that is recognised in the course of the National Board.

15104. On what subjects?—On all subjects connected with the management of the household.

15105. The reason I ask the question is that, (I think it was in Liverpool) we were present, some of us, at a domestic economy lecture, and it dealt with a

different class of subjects, such subjects as the process of digestion of food, mere physical science—is it you do that sort of thing, or is it the other sort of domestic economy, which consists of the work of the house?—I think that, my lord, is the subject of it; I don't like to speak with too great confidence. Book-keeping is taught in five schools, physical geography in three, hygiene in two, music and tonic sol-fa practically in all, two schools teaching it in one and seven in another way, and typewriting or shorthand in three or four.

15106. Would you not look upon typewriting and shorthand rather in the nature of teaching a trade than teaching something for mere educational purposes?—We teach it as fitting the boys or girls for commercial pursuits in the city, for its practical value. I may say with regard to the efforts the Board has made to carry out instruction of this kind that in 1896 we employed, ourselves, a certified teacher from South Kensington to teach cookery in our schools; a course of lessons that extended over four or five months was given at six of the schools with very satisfactory results to the children. We also, when the National Board itself offered us the instruction of an itinerant teacher last autumn, did all we could to induce the managers to have those classes; and lessons were given in four of our schools by that special teacher sent by the Board. Then the teaching of shorthand and typewriting—the expense of that falls on the Board—and for nine months in the year we have a shorthand and typewriting teacher giving instruction at three of the schools, and children from any of our schools can attend them.

15107. Typewriting and shorthand are a little outside our scope; but we should like to have your opinion on manual and practical work, masonry, woodwork and things of that sort?—Well, the greatest number, ninety per cent. of our boys, go to mercantile pursuits, a very small proportion indeed of our pupils go to anything of a manual calling, some few are engaged in engineering, and some few are engaged in plumbing; but we notice that, with regard to the other trades in the city, comparatively few of our boys find employment in them, and that the great majority are employed in the other way, and the great demand in the schools is for a literary education, that will fit them at once for that employment.

15108. Is not that rather ascending, what we in this Commission do not assume, that manual instruction is taught with a view to preparing boys for a trade. On the contrary, it has been assumed all through the

inquiry that that is not the object, but that the object is to cultivate habits of observation, which may be useful, not merely for a boy who is going to be a carpenter, but for a boy who is going to pursue any calling where he is going to use his brain, where habits of accuracy are desirable.—In that sense I am sorry to say that no manual instruction beyond that given in the kindergarten is given in our schools.

15109. Would you not think it desirable, if means could be found, as regards money and as regards teachers who were competent and willing to give this instruction, that it should be given not merely to boys going into trades, but to all boys passing through the primary schools?—I think it would, but I think as long as the literary programme is so very heavy, and as long as the teachers for the working hours of the day, are so much occupied themselves, and the children occupied, as they are, in preparing for results, unless something is done to lighten the programme and to give the teachers time and the children time for the learning of that, that in our primary National schools it would be very hard to put upon them the extra programme of manual work.

15110. Do you see your way to lightening the programme?—Well, I am afraid I am not capable of giving you any suggestions.

15111. We have had a great many suggestions already in that direction, and the thing has been practically done in some of the town schools in England?—What strikes me in this, that to the teaching of geography, and particularly to the teaching of grammar, is given an undue importance, they are very useful indeed as intellectual training, but I am afraid that the intellectual training that they actually do give is not of great value, practically, to the children, so I think that by reducing the programme, particularly in the matter of grammar and in the matter of geography, some time might be found for the manual instruction that is so desirable, and I think also, that in reading lessons, the loss that might arise from reducing the programme in these things might be compensated for, that by giving lessons in reading of an instructive kind, with regard particularly to geography, and in some degree also, but a lesser degree, with regard to grammar, that by giving that instruction in an enlightened way, reading facts and dates (which force the teachers to run hard facts into the children's minds, without any real intellectual value or any knowledge that sticks in their minds), a compensation would be found for a considerable reduction of the programme as it now stands.

15112. When we were at Lismore, the day before yesterday, we visited the only manual school that we have seen in operation in Ireland, and we found there that the way that they gain time to give the manual instruction, which is given only once a week, was by shortening the lessons all round during the week, and that appeared to be quite feasible, do you think that could be done in Cork as well as Lismore?—In other words, would the teachers be able to work for their results less with shorter lessons?

15113. By a somewhat shorter time being given to each subject during the week, whereby they gain a couple of spare hours on one day in the week?—I think the teachers, who are the best judges of that, are very jealous of any encroachment on the four hours of their working day. A little time ago we were obliged, in the school I am manager of, to have our cooking lesson once a week for two hours one day, and the teacher complained very much of the withdrawal of that time from the literary programme. I know some teachers were obliged to have that instruction after school hours, because they felt that the time they had at their disposal now was little enough for the literary programme, and I think that it would be to a lightening of the programme you would have to look rather than to a reducing of the time for teaching it. I attach great importance to kindergarten, and I feel this, that to seize children, so

to speak, before the heavy literary programme has come on them, and to avail of the early years for manual instruction in the way of drawing and little manual exercises when that can be given very much as play and entertainment to the children, is very important for them. And the mental advantages in the way of accuracy and quickness, and the other things that have been spoken of already to-day, all that is best given I think when the children are young. It is best begun when the children are young, and through the means of the kindergarten programme. But as the kindergarten programme is under the National Board at present, it is almost impossible to carry it out. You require a separate room and you require a separate staff—I think that is at page 49 of the Rules of the Board—so that if a school has a teacher and an assistant teacher, no fees can be given for kindergarten in that school, because if the second teacher is an assistant teacher, and that teacher cannot be regarded as a special teacher of the kindergarten programme, and it is not only necessary to have a special teacher for the purpose, but it is necessary also to have a special room where the instruction can be given. I don't think there is any more reason for having a special room for that than for any other part of the programme, and when you have put on the managers the obligation of providing a special room and a special teacher, you really put it beyond our reach in ninety-nine cases out of a hundred to have any kindergarten instruction given.

15114. It is admitted that a separate room is necessary; but is it necessary that there should be a separate teacher from the ordinary teacher?—It says "staff."

15115. Does that mean there should be a special person?—Oh, yes.

15116. Mr. Mottor.—Would not that teacher teach some other subjects?—I speak under the correction of the Commissioners, of course, but, as we understand that rule, an ordinary assistant teacher, who is recognised as an assistant teacher in the school cannot claim the extra fee for kindergarten unless that teacher be a special teacher for the purpose of teaching.

15117. That is specially qualified or certificated in the subject, but not confined the whole day long to the instruction in that particular branch. We were in a school yesterday in which the kindergarten was carried out both in the principal room and in a separate room, and by a teacher who taught other subjects as well as the kindergarten?—Then the interpretation of assistant teacher—

15118. The teacher should be certified specially in that branch?—And be able to claim the extra fee?

15119. That is my view of it?—That is not our interpretation of it, and of course that is a very important matter.

15120. I would hope that we would modify it before very long in the way of having it taught in the principal room?—As one of the ordinary subjects. The extra fee you give for that is 2s., and you require for that a very large amount of work. You require drilling exercises, and music and drawing, and these manual exercises. It seems to me that a fee of 2s. is a very small remuneration for such a large programme; and one thing the Board might consider is, whether on account of the importance of teaching kindergarten a larger fee could not be given. With regard to the teaching of drawing, it is practically taught in all our schools, and it seems a great pity that the teaching of drawing should not be made, as far as possible, obligatory in all schools. Of course teachers have different tastes, some teachers will teach from their natural abilities more efficiently than others, but to teach drawing in all schools is a very important thing, and to use it, not as a mere piece of ornament only, but also to teach it in that way that will most develop the intellectual qualities of the children, and will be of most value when they come

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to practical work. I am sorry to hear that typewriting is outside your programme.

Mr. MOLLER.—It is part of the curriculum of the National Board.

15121. CHAIRMAN.—We have not considered it as a matter of manual instruction, but, however, if you have anything to say on it—?—It is a matter that is almost a necessity; it is a *staple* gas now for boys, and indeed for girls also now, entering upon any mercantile pursuit.

15122. The objection to my mind is, that it is a matter of technical instruction, and we are not a Technical Instruction Committee, we are a Committee to inquire into something leading up to technical instruction?—If the Board saw its way to have results fees for the teaching of it, so as to assist managers in employing a teacher of typewriting, it would be well.

15123. Mr. RENNISON.—It has been suggested from a shorthand lately by a circular, so you can get a separate fee for it?—And also providing instruments at cost price, you would suggest to us the best machine to use, and give it to us on favorable terms, that would not cost you anything. Would it be possible to have alternative programmes, so that, according to the locality, the children of the schools might be instructed in subjects that were most practically useful for them? It is not very practically useful to children in Cork to learn about agriculture, and it is not practically useful for children in the middle of Ireland to learn navigation, but there is a temptation to the teachers to teach a subject because it is remunerative, and because the result fee will be easily obtained. I would think that if the National Board allowed alternative programmes, but required the teacher to adopt the programme most suitable to the locality, they would do a thing that would be of great practical advantage.

15124. Mr. MOLLER.—Of course you know that the manager controls the programme largely, he has the power to say to the teacher: "I wish so and so to be taught in this locality"?—That is a power we would be slow to use.

15125. Mr. RENNISON.—Why do you allow teachers to teach agriculture in the city of Cork?—I put that as a hypothetical case.

15126. I think it is taught in one of your schools?—It is.

15127. Why is that so?—I am not the manager of that school.

15128. There are a certain number of extras taught in our schools, and there is a great choice of extras; that choice could be exercised by the manager in the direction of one rather than of another?—I think it is not as all desirable to bring the managers and teachers more into what might cause friction than is necessary, and one would like that the National Board, through its Inspectors, would control the matter. We, the managers, are all disposed to help our teachers in every way we can, and unless it was a thing that required interference, not to interfere.

15129. I understand you to say that the local people should be allowed to adopt one of various alternative programmes?—Yes.

15130. Would it not be better to leave that to the managers rather than to the inspectors?—What I want is a very large development of that, a development of the programme. I don't want to withdraw the power the managers may have, but I would have the opinion of the Inspector and of the Board brought to bear on the teaching of a suitable programme.

15131. Could you tell me why agriculture is taught in that city school, is it because the fee is very high for agriculture?—I would not take it on myself to say, I don't know anything about the circumstances; it is not my own school.

15132. At present there is no advanced kindergarten taught in your schools; would you be in favour of that being introduced?—I think to carry on the kindergarten instruction until it is torn into in

the teaching of drawing and of handicraft as far as it could be, would be very important.

15133. Have you seen the carded work we have seen in England, or work of that kind?—No, I have not. The value of illustrating lectures has been alluded to already. I think that is a very important thing. Take the case of cookery; it is quite impossible for a teacher of literary work to carry on efficiently cookery classes in a school; it is very hard to take the teacher from literary work for a couple of hours' teaching in cookery, and then for the teacher to go back. Of course it can be done; but I think it is very hard upon a teacher to do that, and I think giving the cookery or laundry work to a teacher or lecturer from outside would be of very great importance to our schools. And it would not only be of importance to our schools, but if that instruction was given to teachers and other instruction in drawing and matters of that kind, it would be of great value also; it would increase in the teachers a desire for self-improvement, it would prevent them settling upon the knowledge they have already acquired, and would give them a very great stimulus in what is of so great importance to them as teachers, in gaining fresh information and keeping their minds open for further knowledge.

15134. CHAIRMAN.—Do you see any force in this objection, that to introduce an outside teacher into the school would lower the teacher of the school in the eyes of the children, by making them think there was something he could not do?—I don't anticipate that would be the case.

15135. That was urged upon us very strongly?—I have only the observation of the teacher coming into my own school, and I think if you get a very highly qualified teacher, who has gained already the esteem of the children and their parents, and who is known to be as efficient as the teacher of a primary school ought to be, I would not be in the least afraid of that teacher being in either the opinion of the pupils or of the parents because those extra branches were taught by another teacher; a great deal of course would depend on the manner and style of the extra teachers.

15136. Supposing that now were to be generally adopted, do you think it would be possible in the case of a number of schools, such as you have under you, if manual work were established, to have one central room, like they have in Liverpool and other cities where manual work should be carried on and a special teacher should teach that work to classes coming from the various schools, instead of diverting the teacher from his proper work?—That would be after school hours.

15137. That would be a matter of arrangement?—I think there is unwillingness on the part of teachers to have their children go to another school for the purpose of any particular instruction, and there is always a difficulty in children going from a school.

15138. In Liverpool under the School Board, that is the way it is managed; they don't have manual work in every school, they make groups of schools, and have a manual room built on the premises of one of the schools which is most central and convenient?—Children sometimes take a long time to go from one place to another, and the teachers at first would not look at it very cordially, but I am quite certain if it worked for a little time the objections to it would pass away, and it would be very useful and important—the objections to it are superficial.

15139. Rev. Dr. WILSON.—You say you would make drawing compulsory in all schools, of course you could only do that gradually?—I am glad to say that in all our schools drawing is taught. There is a difficulty in the power of teachers, of course, to teach drawing, and of course in the case of older teachers who have not taught it hitherto there is an additional difficulty in having it taught, but these difficulties ought all to disappear.

15140. Because many of our teachers, especially the older ones, have not been taught drawing them-

select, and we must do the thing very gradually!—Oh, yes; I don't mean to make it compulsory in that arbitrary manner.

15141. Mr. MOLLOY.—You referred to the school time being four hours a day; of course you are aware that is the minimum time prescribed?—Yes, we have got the other hours for extra subjects.

15142. In connection with kindergarten, have you thought out any scheme by which it could be worked up through the higher classes?—I have not.

15143. I am aware about the special teacher of cookery having been engaged in your schools not long ago, and very successfully; would you be in favour of the ordinary teacher continuing that subject when the specialist has gone away. She attends only for two months, giving the instruction for that period, but for the remainder of the year would you not be in favour of the ordinary teacher continuing the instruction?—I have not thought much about it, but the only thing that occurred to me was that there would be great difficulty in carrying it out, taking the teacher from the literary work, and stopping the whole of her work in the school for two hours, and the preparation that will be involved in the work afterwards will extend the two hours to a great deal longer time, and I think prove practically of great difficulty.

15144. Have you any instruction in ordinary subjects in your schools on Saturdays?—We have certain classes carried on on Saturday, we seize Saturday for teaching French, and things of that kind.

15145. Of course that would be a suitable day to carry on the continuation of the instruction in cookery?—It is very good for a teacher to have a holiday on Saturday.

Dr. T. J. ALEXANDER, Head Inspector of National Schools, examined.

15151. CHAIRMAN.—You're the Head Inspector of National Schools in Cork?—I am, my lord.

15152. In looking over your memorandum, I see you wish to say something about the results programme; I don't think we need go into the whole results system; but so far as it bears on the introduction of manual training we should like to have your opinion on the subject?—I mentioned that subject in my summary for this session, that I think a thorough literary training within reasonable limits is a necessary preliminary to the introduction of any system of manual instruction, and that in close connection with the business of the Commission comes that other point, that is, whether our present programme will admit of modification, and also whether it is as suitable as it ought to be. Now it is to emphasize that point that I wish to raise that question here. If you kindly look at the programme you will notice that the first mistake made in drawing it up was the division into sub-heads, and as a consequence of that several portions of important subjects were practically labelled as of no financial value. As an instance of its indefiniteness I would ask you to look at the programme for second class arithmetic—the test in subtraction is “an easy exercise in subtraction.” It is left undetermined whether any difficulties, and if so, which, are to be included. Necessarily the practice of inspectors and the work of the teachers is affected unfavourably by that—there is a lack of uniformity of practice.

15153. What does that arise from; is it the meaning of the word “easy”?—Yes, the precise connotation of “easy” in that connection. Now look at fourth class, the programme in geography specifies “To be acquainted with the map of Ireland,” and in first class, fifth, it is “To know the map of Ireland,” it has never been decided by authority where the limit is to be drawn there, each inspector is thrown on his own resources to decide the matter, and I think it is too indefinite. Once more, in fifth class grammar, both

15146. You mentioned about inspectors having a controlling voice as regards the special subjects to be taken up in the locality, very much depends on the capabilities of the teacher in charge, and I think there would be a difficulty in having the alternative curricula that you refer to, and I think also it would be a pity to deprive the managers of the controlling voice they have at present in connection with it. The programme of the National Board is very extensive, our experience is that teachers take up too many extras; we would desire that as a rule only two were taken up!—It is as a means of doing what is so very important, namely, giving manual instruction, and cultivating their hands by it and by science teaching.

15147. Is not physical science carried out in any of the ten schools?—In one, St. Luke's school.

15148. Mr. MOLLOY.—Have they a laboratory?—I think they have, but I don't like to speak on the subject. Might I say the instruction in the reading books is very important; I notice here that such things as home duties and cleanliness and treatment of simple illnesses and economy in the use of food and all that, that the teaching of that is part of the ordinary reading lesson, and explained by a teacher and taught intelligently, is very useful.

15149. And we have a special reading book on that subject called the Girls' Reading Book?—Two or three have told me that that was antiquated, but a book of that class brought up to date would be useful.

15150. Mr. STUBBINS.—You are aware that there are many admirable text-books of that kind published in England—Domestic Economy Readers—would those not suit your purpose?—We must adhere to the programme of the National Board.

vages, you will notice that the test is described in precisely the same terms, “To press a simple sentence syntactically.” Our programme requires to be thoroughly overhauled as a preliminary to any change in the direction in which your Commission is investigating, and I wish to mention those single instances—there are more of them. The gravest fault is that it encourages inferior teaching; it did that by the division into sub-heads, and then it did it by the provisions contained in it. I would ask you to kindly look at the programme for infants and first-class reading. There is no requirement in that programme that the teacher shall explain or take any steps to make the child understand the language which he is taught to read in the book.

Mr. MOLLOY.—These points have been modified largely by the new programme.

15154. CHAIRMAN.—The Commissioners of National Education, who are better authorities than I am on the subject, seem to think that this is going rather too minutely into the subject?—Well, I wish to emphasize that as a preliminary to the other. To put it in a few words, the programme is very impractical, and enlightened teaching is not only not asked for but appears to be discouraged.

15155. Now, having said that, we will be happy to hear you on the prior subject, you have put down in your memorandum?—I would omit grammar from the third class and also geography. I thoroughly agree with the evidence that has been given by Brother Burke.

15156. You say you would omit grammar from the third class, how would that bear upon introducing a subject, which when it is introduced is introduced in the fifth class?—I will come to that presently.

15157. Tell me what you would introduce in the place of grammar?—To find room for manual training.

15158. You would not suggest they should begin

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Rev. Canon
Powell.

Dr. T. J.
Alexander.

Cork,
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that in the third standard—I would give the term a large connotation; I would introduce drawing in the fourth class, the programme in grammar could be very materially reduced, there is a portion of it I should like to see maintained, it is useful, and the same with geography, it could be largely reduced and that would save time for the introduction of any additional subjects. In the fifth class I would reduce the grammar and eliminate parsing; I am satisfied that, for practical purposes, it is of little use. It affords a certain amount of intellectual training, no doubt, but I think that its omission, that is in the form of parsing, would not be much loss, while a portion of the grammar could be retained with advantage. In sixth class I would eliminate grammar as a separate subject, and include it in a test in composition, and require a teacher to teach his boys to write a letter grammatically, and to express themselves in what would be described as correct English. Then, in intimate connection with the point that was raised this morning, I would wish to say that our text-books are almost wholly unsuitable. I am speaking particularly of grammar and geography. I would wish them retained in a modified form, but in close connection with that arises the question of text-books. Much of the matter contained in the text-books, especially in geographical text-books, I consider useless, and the time spent by a boy in learning this information is wasted. I refer to the lengths of rivers, populations to a certain extent, and matters of that kind—they remain hard, assimilated, undigested facts in his mind, forgotten in a year or two. There is a considerable amount of time spent in committing them to memory, and there is no good done. Of course our examination in that subject necessarily follows the text-book. The Commissioners have placed that on the list, and when we look at the programme and see there "Geography of Ireland," of course it is understood that the extent of knowledge laid down in the text-book is that which we have to require, and therefore our questions necessarily must follow these lines. The next point is the retention of the Result system partially. I would wish to say that the individual examination of the child is necessary in the essential branches, that is reading, writing, spelling, and arithmetic, but any other subjects which are taken might, I think, be examined by class and not individually. But I would wish to give my testimony emphatically in favour of the retention of individual examination for the essential branches, because in no other way would they receive due attention.

15159. In other things you think it ought to be modified?—Yes. Now, with regard to drawing, two points of course arise—one is how the teachers are to be trained to teach it. I am one of those who recommend it should be made compulsory, after a reasonable interval—the sooner the better—but the training of the teacher to teach it is the difficulty. Our present practice, and for years past, in examining for certificates, by, I hold, on wrong lines, we apply no test to the teacher to see whether he can instruct in the subject or not, we merely try his individual proficiency, and nothing more.

15160. And you give him a certificate that he can teach after that?—We do; there is no test applied as to whether he can instruct a class.

15161. I gather that you would prefer the system which, as regards manual training, is adopted by Herr Salomon, at Naas; that is, he declines to give a certificate that a student can teach; he will only give him a certificate that he has passed through the course!—Quite so.

15162. Mr. Ramsden.—If a teaching certificate were required, what test would you apply?—There are two tests. I would ascertain if a teacher had the power of hand to produce a pattern—say to draw a pattern on the blackboard for his class—that is manual dexterity; then I would ascertain whether he

knew any of the principles on which the subject should be taught, in teaching a class, for instance, freedom, what points are to be watched, what faults to be guarded against.

15163. Rev. Dr. Hyatt.—But could not all those questions be put in a paper of questions for Queen's scholars in July?—There is no paper of questions on freedom.

15164. You don't examine them in drawing?—They are examined by practical tests.

15165. Could you not test their ability to teach as well as proficiency in the subject by questions?—I am speaking of what the practice has been so directed by the Commissioners. I have been associated with Mr. Craig and other gentlemen, in examining. I simply prescribe a copy, which is put before the candidates; they draw it as well as they can, and their work is submitted to Mr. Craig to be marked, and on that certificate are granted or refused.

15166. Mr. Ramsden.—What do you suggest in place of that?—My suggestion is twofold. In the training colleges the subject should not only be taught to the teacher as you teach a child, but it should also be taught so that he could teach it himself in turn, and I would require, in addition, a practical test by an expert as to whether that knowledge had been acquired by the teacher. In the country, dealing with those who are past middle age, or have been already trained, the test could be applied at once, after due instruction was given. I make that suggestion in view of one that has been referred to before—that is, that even if a teacher has not a certificate he may be allowed to teach. I am strongly of opinion that would be worse, judging from the experience I have had for twenty years; I am sure I can give the reason why, but I can state the fact, that there is hardly any subject in the programme which is more unsuccessfully taught on the whole than drawing, or less progress made for a given amount of effort, even by teachers who I know do their best. I am not certain I can give an explanation of the fact, but I am quite sure that it is so. Therefore I think it is desirable that something should be done to secure that those who teach drawing should know how to teach it.

15167. How is a teacher who is not in a training college to get a certificate?—The way a teacher gets a certificate in music now—the teacher stands a theoretical test first, and then the Inspector is directed to visit the school and hear her sing—hear her give lessons to the class.

15168. You have just said you would not allow a teacher to teach drawing unless he had a certificate, so that this teacher would not be allowed to teach drawing, and unless he taught it he could not get a certificate?—The teacher of music would be refused a certificate the year she commenced the subject.

15169. But we allow her to go on teaching until the Inspector comes round for the practical test?—That is as short an interval as possible—a month or two.

15170. So that is what you would do for drawing; for a month or two you would relax the rule and allow him to teach it without a certificate?—Yes; I mean I would not allow him to teach it for years. With regard to the programme for pupils, I think the present one would require modification. I would begin the subject in the infant class and continue it through all the classes to the sixth, adopting the present kindergarten programme in drawing for infants and first and second classes; then I would retain our present programme in freedom, but modified some what in the fifth class. I would require the pupil to draw in outline an object which he would see from a front view, no perspective being involved; such an object as a kite, a hatchet, and so on. I think we are confined quite too much to a mere lifeless copying of figures. Similarly in shading. Our teaching of

shading is worth nothing or very little; it ought to be taken up from the actual cost, and the principles that govern drawing in light and shade ought to be explained, without that it is worth nothing. I allude to sixth class programme, subhead B; that programme all through requires modification. I would commence practical geometry in fifth class—easy practical geometry.

15171. Is not that the case at present?—Yes, I agree with that, I would not disturb that arrangement; and then have model drawing, but taught and examined on the lines I have suggested, that is not the copying of a figure already shaded, but an actual object put before the child. Now, in reference to needlework, the importance of the subject, of course, needs no testimony from me, but I am afraid that we have not acted quite wisely in connection with the arrangements contained in the programme. Kindly look at any class, say fourth, you will find that a great many subjects, which are very different indeed, are included there, look at first stage of fifth, you have sewing, knitting, and cutting-out, all these are included in the one mark. That puts a difficulty in the examiner's way, which has not been solved—it is this, the cutting-out is, I hold, a deeply important part of the programme—deeply important; but suppose the proficiency in it is very poor, or very indifferent—worthless—yet if the knitting is fair and the sewing fair, you give such a mark as exonerates the teacher from the consequences of the neglect in cutting-out, and I think that is a wrong principle. So long as the programme remains as that respect as it is, so long will the cutting-out be, as it is in most cases, practically worthless. And then in connection with that, just in conclusion—the subject is now compulsory in the new programme for teachers, but I think a higher percentage should be required; it is a very important subject—it is a manual training subject already introduced—has been for a great number of years; and although it does not come directly within the purview of the Commission, yet I wish to say that an impetus could be given to the proper teaching of the subject by a change in the programme for pupils, which would be incidental to the revision of the programme which I have already referred to.

15172. You are on the subject of the programme for pupils, and just now you referred to the programme for the classification of teachers?—In the programme for teachers the percentage should be raised, and the pupils' programme should be rearranged.

15173. You know the teacher must pass in each section of the programme?—Yes, and the pupil also. With reference to agriculture, I have noted some particulars but it may be sufficient to say that the views expressed by the gentleman first examined are exactly what I hold myself, that is to say, that our present book-teaching by itself is worthless, but combined with an element of experiment within reasonable limits could be made exceedingly useful and valuable, and that reform is urgently needed. I would venture to add that if the programme were so modified as to include in it the element of experiment it would tend to steady and give effectiveness to the instruction. If the Agricultural Superintendent were to draw up a short statement of suggestions it would assist to unify the instruction considerably and prevent any wide departure from the main object in view. The last point is, of course, the most important, and that is the difficulties which stand in the way of the introduction of manual training, even to a limited extent. A certain amount of light has been thrown on the subject, that is, experience has been gained by what happened in the case of the alternative scheme, that in the enlarged scheme of industrial instruction intended for sixth class girls; that, of course, as most know, has not succeeded, rather the contrary, and in many schools where it had been taken up and tried for years it has ultimately been given up; in a great

many it was never adopted, but even where it was used it was ultimately withdrawn.

15174. CHAIRMAN.—Was not the alternative scheme a mere prolongation of the time devoted, and still devoted, to the same subject, namely, needlework?—No, my lord, it was far more than that—it was a radical change in the programme.

15175. Because the impression on my mind from what I have been told in visiting schools was, that the result of giving up the programme was to shorten the time in which instruction to the sixth class girls is given in needlework, but that it did not go beyond that—That is, as I know the matter, hardly correct.

15176. Well, will you tell me what is correct. What is done in the case of sixth class girls in needlework where there is the alternative scheme, and tell me what the difference is where there is not the scheme?—Where there is no alternative scheme an hour is devoted to needlework, which includes cutting-out and knitting as well.

15177. That is done in every case, and is compulsory?—It is compulsory. In the case of the alternative scheme no hard and fast line was drawn; a suggestion was made, after the introduction of the scheme, owing to a misconception which arose, that forty minutes might be given to needlework, and forty minutes to each of the other two special industrial subjects.

15178. Which were?—Plain dressmaking is one, the knitting of jerseys another.

15179. Still that was in the nature of needlework?—When I speak of needlework in the alternative scheme I include shirtmaking and cutting-out.

15180. Was not that merely an enlargement of the former programme, still given for an hour, to sixth class girls?—That was a section of the programme undoubtedly, but there was the addition of two heavy subjects, which might be chosen from a list of some sixteen, given in the rules, and it was the introduction of those two that crushed out a considerable portion of the literary programme.

15181. Did you say they were separate subjects?—I should call them the same subjects only carried out to a higher stage?—Not the same. All the needlework programme up to sixth class in any school in clerical was, under the alternative programme, extended; in the ordinary programme in sixth class a girl is only required to cut out a shirt, under the alternative scheme she must cut out any part of a lady's dress, therefore the cutting-out was extended.

15182. Mr. STOUTER.—Extended, not introducing a new subject?—Extended. Then, there was a list of subjects, dressmaking, fine under-clothing, knitting caps, wraps, clothwork, artificial flower making, ecclesiastical embroidery, and so on. Two of those had to be taken, and to make way for them arithmetic was done away with, dictation was done away with, also grammar and geography, and practically nothing was left but reading and writing tested by composition.

15183. CHAIRMAN.—Having received that explanation, will it occur to me that the alternative scheme is not at all parallel with woodwork, which does not exist at all. In the one case it is an enlargement of something to be done with a needle, in the other case it is the introduction of a new subject which does not exist at all?—Yes, but the fate of the alternative scheme contains some warning as to the possible fate of manual instruction. The first and greatest difficulty of all in the way of manual instruction is the cost of materials, and that is so great that I am afraid it will amount to a practical prohibition unless the State comes to the rescue, and under proper safeguards gives some financial help.

15184. Mr. HANCOCK.—That is assuming it is introduced into all the schools in Ireland or a very

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large number?—I am speaking of what will be in force in three or four years.

15185. CHAIRMAN.—This is what has happened in England: the municipalities have come into play, instead of the State; in the big cities the municipalities have found the money; in the country districts no one has found the money, and it has not been introduced except in one or two cases!—In the case of needlework, the work was of a practical nature, and all the articles, easily made, could be used at home, and therefore there was a return for the money; but necessarily, in manual instruction I am afraid much of the material will be wasted, and whoever is to pay the money might hesitate to pay it for that.

15186. The cost of the material, so far as we could gather in England, was not a large element in the expense of the actual work!—I am speaking of portions of Ireland, remote corners, where it is very hard to get even the price of a copybook. There are sections of the country, where, besides public spirit, will be sufficiently strong to provide the expense, but as a general subject in the country at large I am afraid that difficulty will meet you very early, and I know it was one of the difficulties that interfered with the success of the alternative scheme. In the next place, there is another difficulty which I think it well to advert to. The alternative scheme programme was too ambitious, and it ended in causing a great many of the managers to refuse to take it up, who, I think, would have adopted it if it was expressed in simpler terms. When they read that list and saw ecclesiastical embroidery, clock work, and artificial flower making, and so on, they hastily condemned the whole thing, and the moral I draw, for the present purpose, is that a small beginning would be safer than a larger one, and that it would be very easy to arouse prejudice that it would be very hard to overcome. For, of course, local support must be obtained if it is to succeed. Another point was, that it was optional, and that fact helped largely also to interfere with its success and kill it. Why that is so is a matter of speculation; I can speak as to the fact. In a great many cases when the scheme was first promulgated exemption was at once called for, it was not even tried, and the number of cases where it was ultimately tried was a very small proportion of the whole, so that if any scheme is introduced, the element of compulsion, of course cautiously applied, will certainly be necessary to secure the success of the scheme. The next point is the question of training teachers, and there, again, the alternative scheme speaks a message to us about it. A great many of the teachers were appointed—I am thinking of workmistresses who teach sewing only—a great many of the school teachers were appointed when cutting-out was not required at all, and necessarily they were quite unable to take up the subject—they had not the necessary technical knowledge. That will be of course provided for I presume, but I mention it for the purpose of saying that I think the training of the teacher most important. I have given the subject a great deal of thought. I say that manual training ought to be imparted by the teacher of the school. I am opposed to outside teachers, my ground of objection is absence of discipline, it is not properly maintained, the outside teacher does not know the children and cannot command and control them, and very frequently I have found that one of the school staff had to be sent in with him to keep order. I allude to needlework in some cases, to vocal music in others, where an extern was imported by the manager, and it was found they had not due control, and I know that extern teaching of music and other subjects is often not as effective as teaching by a member of the staff. With regard to the training of the teacher, the best plan would be to have a sufficient number of experts who would meet the teachers at convenient centres, say at intervals of a week; that would give the members of the class time to ponder over what they had heard and they would be better able to profit by what they learn the next

week. The alternative to that is a sustained course of six weeks or thereabouts; my opinion would be in favour of the former.

15187. That is the plan in Cumberland, the teachers go once a week to practice in Farnith under a trained teacher!—That would be my suggestion, that the teachers should meet an expert at centres, they in turn could carry the subject into their schools.

15188. I am afraid that they have not carried it very far into their schools!—The last point is one I have partly touched on, therefore a word or two will be enough. The success of any scheme of manual instruction will also be affected favourably or the reverse by the extent to which it interferes with the literary programme. There is an instinct among the people that a school is to teach reading, writing, and arithmetic, and so forth, and the moment you displace any of those for practical subjects you begin to arouse hostility more or less. Practical cookery has not aroused that hostility, because it does not interfere with the ordinary curriculum, but if it did you would have the same opposition that we had to the alternative scheme.

15189. Mr. STRECHER.—Why does it not interfere—is it taken outside the ordinary school hours?—Yes.

15190. CHAIRMAN.—The only case in which we have seen the thing tried in the south of Ireland is at Lismore, and I know the objection you have just given is the one commonly urged. Do you think that arises to any extent from ignorance? We asked the question there, whether hostility was aroused, and we were told that at first people were against it rather, but that at present there is only one parent who objects out of all the parents who send boys to that school!—Yes, my lord; but I understood you to say that there was no omission from the short curriculum.

15191. They have shortened the subjects!—My point is, that if you omit them to any serious extent you arouse parental hostility—I myself would omit a portion as I have already indicated.

15192. The theory of those who advocate the subject strongly is that the education of the children is so much improved by the manual work that they really get through the other subjects in a shorter time and more efficiently than they do now!—On that subject I have had a very serious experience several times. I am not a believer in the high mental value of woodwork as far as I have seen it, but I have noticed that the most skilful pupil with her hands in needlework is often the most stupid in class, and the girl who is exceedingly bright and smart is very often the worst needlewoman, and very often gets a cipher for her work. I think that has a good deal of meaning, and if manual instruction is carried on in a certain way it will be of very little mental benefit to pupils, and the benefit to be obtained from it could be got much more surely by a more modest programme, that is by introducing elementary science, and requiring the pupils to take part in making apparatus and conducting experiments. I would be much more in favour of that than of woodwork.

15193. Rev. Dr. EVANS.—Have you anything to do with the Model school here?—Yes, I am the Inspector in charge of it.

15194. Is it the fact that the alternative scheme for girls was carried on in this Model School until lately?—Yes, until last year.

15195. Why was it given up?—The opposition of parents.

15196. Could you put briefly what the nature of that opposition was to which you have alluded?—The main objection made was that they required their girls to get an extensive literary course, inasmuch as they had in view posts in the Post Office and situations of that kind, and we did not apply to the Commissioners for exemption until we tried our best to retain the girls and failed, even though we carried on to a certain extent the ordinary programme.

15187. You have long experience in the teaching of writing?—I have.

15188. Did you ever know a school in which writing was well taught, although the teacher himself was not a good writer?—Yes, I have known a few cases of that kind.

15189. Could a teacher, by the aid of copy lines, teach writing properly?—Our copy books are as good, I think he could.

15190. By parity of reasoning, could a teacher who was not good himself at drawing teach drawing satisfactorily by models and such help as would be analogous to copy lines?—No, I draw a distinction. Teachers who teach writing well, don't draw well; there is a difference in the way of holding the pencil altogether. The hold a boy takes when he is going to draw is quite different from what he takes when he is writing.

15191. You know the Board has a list of books, and I suppose you understand what is meant by putting a book on the Board's list, would you say what effect that has on the programme?—The effect is that in examining in the subject with which the text-book deals the inspector is limited to the matter contained in the book, and his questions must be strictly based upon the statements in the book, and of course he must give it an honest thorough examination; no matter how unwise or foolish, he must go through the course contained in that book.

15192. And when the body of inspectors are engaged in preparing questionnaires for teachers, pupil-teachers, and monitors, they have regard to the fact that the placing of books on the Board's list brings them within the curriculum?—Quite so, that is the case.

15193. And that also bears upon the examinations conducted by the inspectors in schools?—Quite so.

15194. Mr. HARRINGTON.—Have you anything to say about any of the industrial work that is carried on in rural schools in your district? There is weaving done in some of those places?—I have no direct knowledge of that, it is carried on in two schools, but I have not been able to visit them yet.

15195. In the present arrangement by which cookery is taught a good one, ought there to be a continuation of it?—Oh, no, the present arrangement is not a good one at all; I would suggest that there should be a two years' course, and further that the programme should be more practical than it is, and our syllabus be more carefully drawn up, with a view not of producing cooks but of producing housekeepers, those who could manage on a small income to buy the best portions of meat and understand the economical treatment of it; we are not on quite right lines yet.

15196. Mr. SCURLEIGH.—I am not quite clear about the procedure of inspectors in examinations; this is the programme of examination for different classes, to know the geography of Ireland as prescribed in the sixth class, and you said that that means to know the geography book dealing with Ireland?—Yes, that is the pupil is to be acquainted with the statements in the prescribed book on the list.

15197. That is a possible interpretation of the language, but take the programme of the fifth class, second stage, "to know the maps of the continents," no mention of the book and "map" is italicised. The same in the first stage of fifth. "To know the map of Europe and the map of Ireland," there is nothing said about a book at all. Might not a teacher say well say, "I have taught my children from a map alone without the use of a text-book, I have given them no information about the lengths of rivers or heights of mountains, but they have a good knowledge of the map of Ireland." Would it not be following the programme?—No, from the examination of the teachers down, our course of examination is to be based on the books on the Board's list, that has been the spirit of the system.

15198. Might not a teacher choose to dispense with a text-book in geography altogether?—No, if a

teacher or a manager objects to any book on the Board's list, he is at liberty to submit an alternative book, and that book is approved by the Board, and I am bound by it.

15199. He must have a book?—Must have a book.

15200. It is not open to him to teach such a subject as geography orally?—No, he must supply some indication of the course he intends to follow.

15201. Nor is it open to him to teach such a subject as grammar orally, he must have a book?—Yes, or a written statement of the course which he wants to teach that he may teach it properly.

15202. Do you think it is a good thing to have teaching out of books, that you get the subject more thoroughly taught?—I do.

15203. Even if it involves the teaching of comparatively junior classes the heights of mountains and lengths of rivers?—No, I beg to refer to what I said before, I am of opinion that the books are quite unfit, and I object strongly to questions about the lengths of rivers, but I reply, as I said before, that the book binds me.

15204. I demand you are aware that in Scotland and also in England, there is no prescription of a text-book?—So I understand.

15205. The teacher is asked to teach the geography of England or Ireland in a certain standard, and to teach simple parsing, but there is no obligation on him to teach it on the lines of any text-book whatever?—So I understand.

15206. You refer to certain difficulties in the way of the introduction of manual work, one is the cost of materials, that would be a great difficulty in rural districts?—A great difficulty.

15207. It could not be introduced into poor districts in Ireland, unless there was an indemnity grant to provide the proper apparatus and material?—Yes.

15208. There would also have to be an annual grant for the teaching, which would put it on a favourable level with the other subjects, such as reading and writing?—Quite so.

15209. You said you would have to make a small beginning in manual instruction, then, you said the subject should not be optional but compulsory, if it was to be successfully taught. I don't quite understand how you reconcile these two statements. You cannot have a small beginning, and also make the subject compulsory over the country, can you?—I think so, the two statements do not conflict in the least, by having a small beginning you are enabled to make it compulsory, by saying "small," I don't allude to the number of schools, but to the course of instruction.

15210. Then your idea is that you would like manual instruction made compulsory throughout Ireland?—I would certainly, and would wish, if it was possible to have it to-morrow.

15211. If it were possible, then is it impossible?—It is clearly impossible, we must proceed by stages.

15212. Then would it not be better to begin with a few schools, where the success of the subject, if it was a success, would be apparent to a large number of people, instead of trying to make it compulsory all at once?—I don't quite take that view, the possibility of extending it would not be properly tested, and the experience gained would be sufficiently fruitful for future guidance. I would prefer to make an effort now to have drawing taught, and if we succeed we might proceed further, but I would be more in favour of the universal introduction of drawing, I mean after a reasonable interval, rather than to begin a complete course now in a few schools.

15213. Let us take the subject of drawing to begin with, it is quite clear there are many teachers in Ireland who are not competent to teach drawing thoroughly?—That is so.

15214. But there are considerable numbers who are?—Yes.

15215. And you have probably a few very competent teachers of drawing?—We have.

Cork,
Oct. 5, 1887.
Dr. T. J.
Alexander.

Cork.
Oct. 5, 1891.
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Alexander

15226. In whose schools the teaching of drawing is a very distinct success?—Quite so.

15227. Might not these men be employed to instruct a number of their fellow teachers, seeing they are successful in their own schools?—Well, no, I would hardly hold that view, and for this reason, the subject of drawing, more than any other, I mean the mode in which it is to be taught, has undergone very considerable modification, and although these men succeed, I would wish to add they are succeeding in meeting a test which I regard as insufficient, and their success is relative not absolute.

15228. You surely have some teachers in Ireland whom you would regard as successful absolutely, not relatively?—I have not met very many in the schools: I will give you a proof. I have examined in drawing in a great many schools in all parts of Ireland, and, except in a few instances, I don't remember ever to have seen any indication that the pupil's attention had been drawn to the necessary pre-analysis of his copy before he proceeded to outline it, he started at the top or left, and took it as it came, but made no effort to produce the leading lines.

15229. Do these men get a certificate of competency in drawing?—They do.

15230. Then do you suppose that while they were trained in the training college they were not taught the pre-analysis of drawing?—The colleges have been relatively a short time in operation, and I have not had an opportunity of expressing an opinion on that point, my remark referred to the mass of our teachers, who have come down to us from the past. I prefer that experts, those who know the subject as now taught, should come amongst our teachers and lead them.

15231. Where would you get these experts?—There are some schools in Ireland, and I presume there are more in England, in which the subject is taught. In Derry, for instance, there is a very large freehand school successfully taught by an English teacher, Mr. Hamer.

15232. You would have a number of these experts sent to instruct the other teachers?—I would.

15233. On the ground that they had a thorough modern knowledge of the subject, and were competent to teach it. It would be better that these men should instruct the teachers generally throughout the country, and that those teachers, so instructed, should be induced to take up the subject in their schools from having a sufficient result fee attached to it, instead of attempting to make it compulsory all at once?—That would be my opinion.

15234. You spoke of your experience of finding girls who were extremely skilful at needlework stupid at other subjects?—I found that.

15235. I think you said they were stupid girls?—They compared unfavourably with others in the schools.

15236. How did you reach the conclusion that they were stupid? they showed intelligence in needlework?—They did.

15237. Then why do you call them stupid?—I used the term "stupid" in reference to what may be called the higher intellectual subjects, involving abstract thought.

15238. I have frequently heard teachers of experience on the subject say their experience is rather the contrary, that the brightest pupils in grammar and geography are also the most skilful in manual work?—Well, I have had considerable experience, and have watched that point particularly, and my verdict is not quite the same. A stupid girl, as regards abstract thought, yet possesses the power of using her hands.

15239. You may say that as a subject on which opinion is not easily determined?—I think so.

15240. Mr. Morton.—With regard to drawing, did I gather from you that you found fault with the

way it is taught in training colleges?—No, I have no experience. My conclusion is inferential, not from direct observation.

15241. You have never been present when a teacher of drawing gave lessons in the training college?—No, and my remark refers to teachers who got their certificates perhaps fifteen or twenty years ago.

15242. And who, although trained teachers, might not have got their certificates in training, but at a local examination?—They might.

15243. Have you any experience of schools in which physical science is carried on anywhere in the places in which you have been engaged as inspector?—I have had a small amount of experience, in the Model school at Omagh.

15244. Have they a physical science laboratory at Omagh?—They had a small one, but not sufficiently extensive.

15245. Was it in the boys' school?—Yes, but that was eleven years ago.

15246. Have you any personal knowledge of manual instruction in wood carried on anywhere throughout Ireland?—Have you seen the thing?—No, I only know it as described in books, the English system; I have not seen it.

15247. In the suggestions that you are offering, have you developed any scheme by which kindergarten could be brought up into the higher classes, from, say, second class and extended to third, fourth, and fifth?—No, I am not prepared with any suggestions of value at present. Still it is very desirable, and I would take this opportunity of adding that the suggestion of Canon Fowell is one in which I thoroughly agree—that the introduction of kindergarten into schools has been prevented owing to the rule that has been referred to in the course of his examination, or at least that it will not be paid for. I agree that that book ought to be removed.

15248. With regard to the programme in grammar and geography, Mr. Staunton asked you whether it was obligatory on the part of the teacher to use text-books?—did I understand you to say that it was?—Yes.

15249. Where is that laid down?—My information was gained in the first instance from the authoritative directions of those who trained me.

15250. But we have the class programme here, and there is no mention of a text-book in connection with grammar or geography. Text-books are referred to in certain other cases, but those were text-books which the Commissioners published; they were responsible for the matter of such text-books, but they were never responsible for the matter of text-books in grammar and geography, and consequently it was in the power of the teachers to use any suitable text-book, or to give a lesson on, say, the geography of Ireland without any reference to a text-book?—Yes, but then if you take writing there is no prescription there.

15251. But grammar and geography were the two subjects you mentioned. Are you in favour of individual examination of pupils for results fees?—I am.

15252. Rather than class examination of pupils?—I am strongly in favour of individual examination.

15253. Would you confine the examination on the occasion of the results examination to those who had attended the minimum number of days, or would you include in the examination pupils who had attended some portion of the year, but not the prescribed number of days to qualify for a fee?—I would confine the examination to those who had made 100 or more attendances on the day of the examination for results.

15254. In view of the fact that many inspectors are not able to attend once a year in some schools, what provision would you make for the inspection or examination of pupils on other occasions, say of pupils who had not attended the minimum number of days?—I answer that in this way, our programme can be considerably reduced, and if you introduce class examina-

tion, as I think you safely might, in all subjects, except the four I have mentioned, you would lighten the labours of Inspectors.

18255. Then you think class examinations might be safely introduced?—Certainly.

18256. Rev. Dr. WILKES.—One duty, as a Commissioner, is to ascertain how far, and in what form, we can introduce manual instruction into the schools of the Board, you propose to give courses which may pre-

vent its successful adoption, would you give us a summary of those courses?—I have already done so.

18257. I want merely the heads?—Cost of materials; I may venture to say a modest programme not requiring too much made compulsory, that is after a due interval; providing adequately for the training of the teachers, and also providing that the introduction of it shall not interfere with the literary programme unduly, should succeed.

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Mr. C. SMITH, District Inspector of National Schools, examined.

18258. CHAIRMAN.—You are a District Inspector of National schools?—Yes, my lord.

18259. What observations have you to make on needlework?—With reference to needlework my experience was that local exhibitions had a great effect in stimulating the children to improve in needlework. Prior to my coming to Cork, I was in Clogmel for several years; we started local exhibitions there, and up to £30 was given in prize, and it had a wonderful effect in stimulating the children. Also, I should say, that there ought to be an advance in knitting. Knitting is practically at a standstill, from fifth class up; the programme might be altered, and I don't think crochet would be too much to ask teachers to give instruction in, it is very simple and it is easily mastered by even young children. And I think the teachers might very well be called upon to give instruction in the higher kinds of needlework. There is a good length of time given for it, an hour a day, that means a great deal of proficiency could be obtained; and considering that one quarter of the school day, an hour a day, is given to needlework, I am very strongly of opinion that a higher fee should be paid for it, so as to stimulate the teachers and the children. A good deal has been said about judging needlework, I don't think there is much difficulty in judging needlework, a man can judge it almost as well as a woman, it is merely symmetry, if work is symmetrically done it is well done, if it is not symmetrically done it is ill-done.

18260. With regard to practical work in schools, will you give us your observations on that subject?—I think cookery and laundry work ought to be taught in all girls' schools, and I think the first part of the day on Saturday should be exclusively given to cookery and laundry work, every female teacher is perfectly competent to acquire a knowledge that will be useful and sufficient to teach cookery and laundry, and I think that they should give two hours each week to it. The expense of getting materials together might very well be contributed to by the Commissioners, i.e. by the Government, in the same way as the Government contribute two-thirds towards building a school and equipping it with desks, so they might grant two-thirds to equip it with materials for cookery and laundry; and inasmuch as every female teacher could become an adept in cookery and laundry, I don't see why they should not be forced to do so.

18261. Then, with regard to dressmaking?—That is taught as an extra where the alternative scheme is not in existence.

18262. Have you anything to say with regard to the work done by unrecognized itinerant teachers in cookery and dressmaking?—There was a great difficulty when the results programme was devised, with regard to the teaching of dressmaking; that difficulty was tided over, in the case of my late district, by getting a lady called Miss Walsh to aid. I, noting with some of the teachers for the district, organised a class for Saturdays, and Miss Walsh gave lessons in the Model school, and every teacher in the district acquired the knowledge of the approved system of dressmaking, and they taught this in their schools. And in every school where sewing machines was presented as an extra, dressmaking was

well taught on admirable and approved principles. In the same way the teachers of the district could acquire a knowledge of cookery and laundry that would be useful in teaching their children. Classes could be formed under a diploma of some recognized school of cookery and laundry.

18263. Have you anything to say with regard to cookery as an extra branch in schools?—Cookery is taught largely in all the convent schools at present as an extra branch. There is also an itinerant teacher of cookery in Cork, she had ten classes in the early part of this year. I examined those classes towards the end of April, and the results were very satisfactory.

18264. How is she paid?—I could not really say that, I fancy she is paid by the Commissioners and gets some results fee.

18265. She is in connection with the National Board?—In a certain sense.

18266. Does she give her lessons only to pupils of the National schools, or to anybody who likes to come?—At present she is engaged altogether with pupils in National schools. There are four courses of lessons going on at present in my district. There are lessons going on in the Youghal district; she is giving cookery lessons in Canon Powell's school, she gives twenty lessons, but they are quite inefficient, the children are beginning merely to get a taste for cookery, an inclination for it, a liking for it.

18267. You have a heading down here about the industrial department in connection with wages; explain what you mean by that?—I think in schools where you have an industrial department there is a wrong trend given to the fancies of the children, they would be much better employed in being trained up as domestic servants, then being trained as weavers or stickers. The wages paid in those departments is wretchedly small at best, and when these children have ceased to attend school they are cast upon the world without much means of earning a livelihood, whereas if they had got a bias towards becoming good, effective, well trained domestic servants, they would have a competency for their future, a safe home and better wages than the miserable pittance they get from working at weaving and such like industrial occupations. I had in my late district a weaving department in the Mercy Convent, Carrick-on-Suir, and I don't know that the girls there were earning very large wages. There is in the district at present the famous Kinsale department, there they are earning fair wages, but it is a very precarious business, at any moment their occupation may be gone, whereas if they were trained up as domestic servants and given a bias in that direction they would have a secure livelihood before them.

18268. What do you say with regard to agriculture as taught in the schools?—I have to differ considerably with the opinions that have been expressed about it, I think it is just as intelligently taught as grammar or geography.

18269. Rev. Dr. EVANS.—That might not be saying much?—It is not saying overmuch, but there is no reason why it should be run down, and I know from personal experience that the teachers are competent to teach it.

18270. CHAIRMAN.—What are the difficulties in the way of reducing the theoretical knowledge to practice?—For instance, when these boys go home,

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and suggest to their father to do this, that, or the other, their father would only smile at them.

15271. But when they become farmers themselves?—By the time they become farmers, their knowledge will have passed away.

15272. They could refresh their memories from the book?—I think the new book will do a great deal towards encouraging agriculture, it is a book of reference now; the old book was anything but that; the new book is a handy book of reference, and no doubt will be found very useful.

15273. Do you think any time could be gained for manual training without reducing the present programme?—I should not like to see the literary programme interfered with, because I think our boys have got a poor smattering of knowledge at the end of their course, the best of them. I believe Saturday morning should, and ought to, be given to manual training, particularly to lessons in physical science, the male teachers ought to be forced to teach elementary physical science, it gives a taste and trend to boys' thoughts.

15274. I suppose you think that somehow or other additional remuneration should be provided for the teachers for this Saturday work, so that they should lose nothing but rather gain?—Precisely so, my lord.

15275. Do you think that to present the National teachers, as a body, are wanted to give practical effect to any scheme of manual training?—Some of the younger members might, but as a body, I am afraid those who have passed through the training colleges would not be very ready.

15276. You think their hand is out of practice?—Yes, my lord.

15277. Do you think that the introduction of elementary science and physical science in National schools would be an advantage?—It ought to be compulsory on all male teachers to teach natural sciences.

15278. What about kindergarten?—It is very useful.

15279. And you think it might be extended; or would you leave it as it is?—If it is taught, it can be taught to third class pupils.

15280. But it is not; there is where the difficulty comes in; why is it not?—Because the expenditure is too much, it is a question of money, and it is very laborious, it requires a skilled teacher to teach the third class programme in kindergarten, and it is rarely attempted.

15281. Mr. Rasthorpe?—How would you teach the teachers to give instruction in cookery and laundry work?—It would be easy to get classes together as I did in Clonmel, I got a class of twenty-five or thirty teachers in there on Saturdays, under a teacher, for acquiring knowledge in scientific dressmaking. That could be done under a trained teacher.

15282. But the centres you selected might be some distance from a large number of schools; would the teachers come in long distances?—They go into centres generally on Saturdays. The difficulty was not experienced in the Clonmel district.

15283. What did the teachers learn?—About twenty-five attended lessons in scientific dressmaking.

15284. Would you teach the male teachers elementary science in the same way?—They should know it; it is not a great requirement to ask elementary teachers to know a little physical science; a person is not properly educated unless he knows something of it, I don't think it would be asking too much of them to insist on their making it up.

15285. I suppose you would insist on their knowing it practically?—It would be better, but even theoretically, it is of advantage.

15286. You said twenty lessons in cookery were not sufficient?—Certainly not.

15287. Is that founded on your own observation or the opinion of experts?—From my own observation and the opinion of the expert, Miss O'Connor;

she says it is not sufficient; in some cases the teachers are continuing cookery lessons.

15288. You are aware that cookery can be taught to fourth class now, and a fee got for it?—Quite so; I have examined fourth class children.

15289. So fourth class children can have two years at cookery?—Yes.

15290. Have you ever thought of the establishment of a course of housewifery, teaching the children all that a housemaid and a paragon should know?—That comes in in domestic economy.

15291. But have you ever thought of teaching it practically?—No, I have not, except so far as it is connected with cookery and laundry.

15292. Would you approve them of having it taught practically by putting children through a course of cleaning rooms, lighting fires, lighting lamps, and so on?—Undoubtedly, I think the great advantage of cookery is making them wash and tidy up—one of the advantages—an advantage that often-times is overlooked where cookery is taught as an extra in the school, and not under the flimsiest teacher, it is a servant of the establishment that often tells us up.

15293. I thought you were in favour of cookery being taught by the teacher of the school?—Certainly.

15294. You think the teaching of agriculture, as carried out at present, has been of value. Do you hear those who have been puffed out ourselves admitting that they have derived much benefit by the study of the book?—I could not say that, because I have no practical experience of them after they leave school, but in agriculture they are talking about matters that they know and have an idea about, it is not an abstract idea, a concrete idea, and it must tend to the development of intelligence.

15295. Don't you think it is essential to farmers to have a knowledge of agricultural chemistry?—It would be all the better.

15296. How can they understand all the developments of modern agriculture, without knowing some chemistry?—Undoubtedly not.

15297. Rev. Dr. Winson?—You would propose that Saturdays should be utilized by manual instruction?—Yes.

15298. You are anxious, I see, to protect literary instruction on the other days?—By all means, I think we have too little literary instruction.

15299. Could you not afford to give ray time on the other five days to this?—I fancy so, in the course of a little time. Now, owing to the change that has come into the programme since yesterday, whereby we will have explanation taught from the second class up, there will not be such a demand for grammar, it will be more easily taught and more easily understood by the pupils. I would certainly think the programme is greatly might be very much curtailed, particularly as regard to sixth class.

15300. I quite agree with you that many of the girls should be taught for household service, but when they are taught cookery and laundry they have gone far in that direction. Would you propose any plan for, say, the duties of a housemaid being taught in a school?—Those are practically taught at present wherever you have domestic economy, if the books for girls were drawn up with lessons like those, I think it would be teaching housewifery.

15301. That is only domestic economy taught in lessons, what I would ask is could you suggest any plan for having it practically taught?—No, I could not.

15302. Mr. Meator?—I think you said you recommended that cookery and laundry work should be taught everywhere by the female teachers engaged?—Yes, everywhere—every female teacher ought to teach them.

15303. Would you indicate the sources from which the appliances would come?—I think two-thirds ought to be voted by the Commissioners and one-third from local parties.

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15304. Is it your opinion that the local parties throughout Ireland would make up one-third of the cost in every school where a female teacher was engaged in order to have laundry and cooking taught?—Well, one-third is made up in the case of buildings, and there is no reason why it should not be made up in the case of utensils.

15305. In speaking of the industrial department, you advocate that the training there should be rather in the direction of making girls fit for domestic service than to earn wages as weavers?—Yes.

15306. But surely according to the Board's programme there is no mention whatever of teaching such a trade as domestic service or such a trade as weaving, neither "domestic service" nor "wages" occur throughout the programme?—When I say domestic service I mean to give the girls a trend in that direction, not to look down on domestic service as a thing beneath them, but to put it on a footing with weaving.

15307. You have already indicated that you think Saturday would be the proper time for the instruction in manual work and also for physical science?—Because I do not like any time to be taken away from the literary education of boys or girls. I want to save it as far as possible, and if any time is to be given let it be on Saturdays.

15308. Could time not be found even during the ordinary week days?—A little time could be gained from geography, and some could be gained from grammar and some gained by leaving out useless extras that are taught at present, that pupils are forced to go through, although they are of very little use to them afterwards.

15309. CHAIRMAN.—What have you in your mind now?—Botany, physical geography beyond all others, because it is never taught intelligently, Latin, Greek, shorthand, and typewriting.

15310. Mr. STURTEVANT.—Could physical geography not be taught intelligently?—It could, by all means, but never is.

15311. Mr. MONTAGU.—You refer to Greek as one of them; I think you will find only two schools in which Greek was taught throughout Ireland?—Two in Greek and twenty-nine in Latin.

15312. Two out of 8,500 schools?—There is no reason why French should be taught.

15313. How many teach botany?—Only one; French eighty-five.

15314. While they are set forth these they really don't take up the ordinary time of the pupils. In the case of an extra subject, who is the judge of the introduction of the subject into the school?—The teacher principally.

15315. Has not the manager a controlling voice?—He has, but he scarcely ever exercises his power.

15316. Has not the inspector also a very large voice?—Only with regard to the number of extras, he has something to say to that.

15317. But as to the particular two, if the teacher is qualified local parties make the selection. What objection have you to that?—I have no objection to the local parties selecting, but I do object to pupils who are badly educated in the ordinary literary programme being put forward in extras that are of very little value.

15318. Would you recommend the cancelling of the permission to give instruction in extra branches?—In some cases I would.

15319. Are you not aware that if such a recommendation is made extra branches could be cancelled?—They can be cancelled, but it does not follow that they always would be cancelled.

15320. So that there is a provision already for overruling out the recommendations you make?—There is.

15321. Mr. STURTEVANT.—The object of the primary school is not to train children for domestic service any more than for any special trade?—Certainly not.

15322. Nor is the object of teaching agriculture in

rural schools to make all the boys farmers?—To make them intelligent, that is the object of every subject taught in elementary schools.

15323. Why do you wish to have domestic economy taught specially?—Because it would make these persons intelligent for domestic service in afterlife.

15324. The subject may be taught in a school in order to make pupils intelligent, and it may be taught in a school to prepare them for future life. Those are two distinct ends?—They are practically the same.

15325. They are two distinct objects?—They are virtually the same, intelligence and preparation for a future life are practically the same.

15326. Then do you think that any subject might be introduced into a school which would prepare pupils for a future life, and tend to its giving them a good training in intelligence?—Yes.

15327. Then why do you attach such special importance to the literary subjects?—Because I want the people trained in intelligence up to the national standard.

15328. Do the literary subjects give a special preparation for the future life of pupils?—Certainly, they make them intelligent.

15329. For instance, in the teaching of decimals very useful to the ordinary tradesman?—Unquestionably, it trains his intellect.

15330. I know for myself, it is useful for his future life?—In as far as it makes him an intelligent being, able to utilize his powers.

15331. That may be achieved by many other subjects, why select this particular subject?—Because it is the usual way adopted everywhere.

15332. You fall back on custom?—Yes.

15333. We had it the other day that the special teaching of agriculture in the rural schools is not found to be of much advantage in preparing pupils for more advanced instruction in agriculture in special schools, such as the Munster Dairy School; would you be inclined to think it has?—I don't quite follow you.

15334. We had it stated, by some witnesses, at any rate, that the instruction in agriculture given in elementary schools was of no advantage to the pupils who afterwards go in for a more advanced course of agriculture in such schools as Glanora or the Munster Dairy school?—I would not at all accept that statement as correct. Agriculture in primary schools must necessarily be a proper introduction for higher forms of agriculture.

15335. Do you find that the children apply afterwards the knowledge of agriculture that they have learned in these schools?—I cannot answer for that, my experience does not reach to the children outside the school.

15336. Only theoretically you think they should?—Yes.

15337. Mr. HANMERON.—You mentioned that local exhibitions were organized in Connell for the purpose of giving encouragement to needlework teaching in schools?—Yes.

15338. How were these exhibitions started, I take it that there were Ladies' Committees?—A lady started them, and then ladies and gentlemen formed the committee, and the schools took it up heartily.

15339. Each school contributed to the exhibition?—Yes, the greater number of the schools sent in wrought articles to the exhibition.

15340. Do you think if local committees were to take an interest in the needlework classes in schools throughout the country it would tend to the improvement of that work?—It would be an enormous stimulus to an improvement of needlework.

15341. Would that instruction be resented by the teachers?—No, on the contrary, I think they had visitors like that with pleasure, that was the experience I had.

15342. You spoke of weaving and lace making in some of these schools, though they are not compulsory,

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will they are as a matter of fact taught in some of the primary schools in your district?—Yes, lacemaking is taught with great success in Kinsale.

15343. Is not weaving taught in some of the schools?—Not in any district.

15344. Well, lacemaking and crochet are?—Yes.

15345. Would you not consider those two branches are technical subjects of special trades?—They are.

15346. Do you think it is well fit that regulation to be continued by which those subjects may be taught?—I don't think it does any harm or interferes materially with other trades.

Mr. E. J. MURRAY, Head-Master, Cork Model School, examined.

Mr. E. J.
Murray.

15349. CHAIRMAN.—You are the Head-Master of the Model school here?—Yes.

15350. I think you have a suggestion to make as to how time may be found for manual training, if desirable, without much extension of the present school day?—With regard to that I am quite in accord with what has been said by Mr. Burke and Dr. Alexander, we might hunt the time for grammar, geography, and arithmetic by modifying the programme.

15351. What is your opinion on the feasibility of its introduction into the elementary schools?—I don't think it could be introduced at present into the elementary schools; it might be introduced into the large centres in cities, but only in large schools with very capable teachers, and somewhat enthusiastic on the subject, in order that the public may take to it.

15352. Were you here all the day?—Yes.

15353. Did you hear a question that was read from *How Salomon's wisdom in Sweden* as to the advantage of a gradual introduction of the subject? His opinion was that if you introduce it into a new country like Ireland, you should begin with very few schools, and gradually increase them; in fact, that is the system that was pursued in Sweden, they began gradually with a few schools, and have now increased to about half the schools in the whole country?—That would be my opinion too, that it should be introduced very slowly in that way, for the teachers have got to be educated to what it really is.

15354. At present there is not a staff of teachers, it would take time to prepare a staff of teachers?—I have had no experience of what the Slaid system is, but I saw manual work done at South Kensington.

15355. What do you say with regard to the teaching of drawing?—I think the teaching of drawing is one of the most essential subjects that you can have in city and town schools.

15356. Of course if you are to have manual training you must have drawing as a basis for it; but independently of manual training, do you think there would be any advantage in making the teaching of drawing compulsory?—Oh, yes, my lord, in that respect I think that nothing trains the eye so well as the teaching of drawing. I told it myself. I never was taught drawing until I was twenty-four years of age, when at the training school in Dublin. I experienced the benefits then, but, of course, that is only an individual case.

15357. Have you given any attention to the question of physical science in National schools?—Yes, I have had physical science classes in the Model school up to the present time.

15358. Do you find them successful?—They are under Kennington, not under the National Board, I cannot say we are as successful now; the programme has become too difficult for the elementary school children to grasp.

15359. You have not been able to earn results fees?—We earn results fees, but not a results fee that pays for the labour and expense.

15360. You think there was a mistake made in the alteration?—That is my opinion.

15361. Mr. REDINGTON.—Do you teach any physical

15347. As regards laundry work, to what extent is laundry work taught in the National schools, outside the Current schools?—I don't know anything about it; I have never met a school in which laundry was taught; there are at present laundry classes going on in the Youghal district, I believe there is one in the Presentation Convent in Youghal.

15348. Could anything be done in the way of teaching laundry in the ordinary National schools?—It ought to be taught in all ordinary National schools.

science in the Model school now?—Yes, to the pupil teachers and a very few advanced pupils.

15362. Do you think it might be taught to children under the fifth class?—I would not be disposed to go lower on the programme than the junior stage of fifth class.

15363. Even if a simpler course of science was drawn up?—Even a very simple course of science, I would not be disposed to venture the fourth class on, I would give some preparatory knowledge to the fourth class, but I would not wish to present them for examination.

15364. Mr. STRATHEARN.—You give object lessons?—I do.

15365. That would be called science?—We don't call it that.

15366. Mr. RUSSELL.—It has been given in evidence that in some schools the fourth class are taught science?—I heard that mentioned by Mr. Burke, but I should say that his fourth class standard corresponds with our junior fifth.

15367. Is Saturday available in the Model school?—We teach on Saturday until twelve o'clock.

15368. Would it be available for manual training?—Oh, certainly.

15369. But of present you have other things?—At present we extend the literary programme.

15370. Would you be prepared to give up Saturday morning to manual work?—It is practically given up to cookery in the girls' school, and we would be prepared to give it up to manual work in the boys' school.

15371. You don't think the literary work would suffer?—No, but I have one remark to make, Saturday is usually a market day, the children are generally kept at home, and hence the teachers would have great difficulty in conducting any successful classes on Saturdays.

15372. CHAIRMAN.—Is Saturday a universal market day in county Cork?—Children don't suffer so much in that way in Cork, but in most of the towns I know, Saturday is the market day.

15373. Mr. REDINGTON.—From your experience of teachers generally, do you think there would be any difficulty in instructing them in the elements of science, so as to enable them to teach science in every National school?—I don't think there would be much difficulty.

15374. Would you have Saturday lectures?—Yes, available for teachers only.

15375. Or would you prefer a course of six weeks or so at some centre?—My experience of a three weeks' course at Kennington was that an immense amount of good was done.

15376. Have you been there yourself?—I spent two sessions there; there was a magnificent result, I thought, from the lectures, the teachers were very careful, and they were taught to make a lot of the simpler apparatus themselves.

15377. Would you prefer that system to having a lecture every Saturday for the teachers of a certain district?—I would much prefer the Kennington system.

15378. At what time of the year would it be

convenient for teachers to go to those courses if they were introduced?—It was during my July holidays I went.

15379. Most of the holidays are in summer?—Some of the teachers don't take their holidays until the harvest season, so three courses of lectures might be carried on for a month each.

15380. What lectures did you attend at Kensington?—Lectures on light, magnetism, and electricity.

15381. Do you think a course of three weeks would be quite sufficient to enable a teacher to obtain a good elementary knowledge of those things?—I should like him to have his text-book pretty well prepared.

15382. He could do that at home?—Yes, and then by his own practice afterwards, he would learn an immense amount in three weeks.

15383. How do you propose that the apparatus should be provided?—I think the apparatus should be very largely provided by the State, and the teachers might provide some else.

15384. Do you think the managers and teachers would be prepared to pay one-third of the cost of the apparatus?—I would not like to speak for the teachers.

15385. Would they be able to get it from the manager or from their friends?—If the subject was made attractive, the teachers would meet it somehow or other.

15386. The pupils would be much interested in a course of practical science?—Very much, they like it very much, particularly the practical demonstrations, it would be useless without them.

15387. If facilities were given, first for the teaching of the teacher and then for the provision of apparatus, would you see any hardship in making the teaching of science compulsory?—Not after a certain number of years.

15388. Mr. MOLLOY.—I take it you are in favour of the introduction of manual instruction in the schools from the observations you made just now?—I am, in this way, I think that the more difficult kindergarten might be extended up into the higher school, continuing the more advanced drawing as a basis for it.

15389. Have you thought out any scheme by which that kindergarten can be developed into the higher classes, or would you undertake to turn your attention to it and later on hand it into the secretary?—I would prefer doing that.

15390. How long is it since your science classes ceased to be connected with South Kensington?—

They have not ceased yet, though I may say they are now rather for the aid of the pupil teacher.

15391. What are the subjects?—Sound, light, heat, and mathematics.

15392. Was the physical science illustrated by experiments of any kind?—Yes, every physical science lesson is illustrated.

15393. Have you any laboratory?—I have, fitted up with water and gas.

15394. Mr. RAMINGTON.—Do you think that cookery ought to be taught by the teacher of the school or by a peripatetic teacher?—I am not in favour of extern teachers on a salary; there is very often misunderstanding and friction between the teacher and the extern teacher, and, altogether, if the teacher could be qualified, it would be much better to have the work done by the teachers themselves.

15395. Mr. RAMINGTON.—What subjects do you teach on the Saturday forenoon?—Drawing, we usually did we need an additional hour per week for it; we teach on Saturdays, as a rule, whatever subject in our programme we think most necessary.

15396. Did this reckon as one of the regular attendances of the school?—No.

15397. It was additional and voluntary work on your part?—The Board obliges us to keep school on Saturday in the Model school.

15398. Rev. Dr. EVANS.—How long do you know the books that were put into use by the National Board?—For forty years.

15399. Do you know a book that has been called the "old fifth book"?—Oh, yes, I did know it.

15400. Whence did that book differ from the modern book?—I am not prepared to answer that now.

15401. Dr. Skelington's report says "The Board's old fifth book was excellent in its way, containing a résumé of history, and containing an introduction to various sciences treated in an interesting and popular way."—Yes, I remember that book, there was one between that and the present book.

15402. Does it not seem that we are going back again to where we were forty years ago?—I would to a certain extent agree with Dr. Skelington's remark, I would divide the ordinary school reader into sections, one of descriptive geography, another of natural history and such subjects, and have the lessons of each section consecutive and tending to some definite point.

15403. We could introduce elementary science into readers, and have elementary science thus taught go hand in hand with other subjects?—Yes.

On resuming after the adjournment for lunch, the Commissioners present were:—W. R. J. MOLLOY, Esq., in the chair; REV. HAMILTON WILSON, D.D.; STANLEY HARRINGTON, Esq., M.A.; and J. STRUTHERS, Esq., B.A.;

with J. D. DALY, Esq., M.A., Secretary.

Mr. JOHN DRESSERY, Teacher, Ballinlough National School, Cork, examined.

15404. CHAIRMAN.—Be good enough to state what position you occupy?—I am an ordinary rural National teacher, or rather a suburban one.

15405. What school, pray, are you in charge of?—Ballinlough, a mile-and-a-half from the city of Cork.

15406. Is there a farm attached to your school?—There is not.

15407. You undertake to give some evidence on the subject of agriculture?—Yes, sir.

15408. What is your view about instruction in theoretical agriculture in ordinary schools?—Theoretical agriculture in ordinary schools should in all cases be implemented by agricultural chemistry, or practical work in the garden if possible. I maintain that a beginning should be made with the teacher. A great

many of them have no information on the subject beyond what they have learned from a text-book in preparing for their classification certificate, and the teacher who has prepared for his profession in a town school has not even the information, or the knowledge that can be gained from observation, when he takes charge of a school in the country where he must teach agriculture.

15409. Then would you prevent all National school-masters from teaching agriculture theoretically?—I would not; it is better to teach theoretically than not teach it at all, for the children can observe themselves.

15410. You advocate the propriety of teaching only where it is joined with practical agriculture?—I think it is not much value otherwise.

Cross-
examined
by Mr. E. J.
Murray.

Mr. John
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15411. In towns you would not have it at all!—No. I met a very intelligent boy in a town, and by accident we came across the stalk of a potato; he never knew what it was. There is no use in teaching agriculture to that class of boy.

15412. What would you substitute for agriculture in towns?—I would substitute experimental science, drawing—both freehand and mechanical; I mean by mechanical drawing, drawing to scale and practical geometry, plane and solid, and perhaps descriptive projection, and as far as possible some kind of manual training, but at present I cannot see how that can be obtained.

15413. What difficulty do you anticipate about the introduction of manual training—by that, I take it, you mean manual training in wood?—Skylid. You must begin by training teachers and making them expert in it or it is a failure; then you must erect buildings, quite as large as those at present in use; for instance, I have a building that accommodates sixty pupils, that will only accommodate twelve Skylid pupils, because the best you can do is fix it up with six double benches, and you must have walking space round, and you cannot put these benches in to-day and take them out to-morrow. Then there is the question of cost. I don't think the cost of keeping it going would be so large as supplying a good set of carpenter's tools, each set runs up to £100, and you require several sets.

15414. You don't look forward to manual instruction as wood being carried on in the schoolroom?—No, it should be in a separate building.

15415. If means were provided for the erection of a building and furnishing it properly you are in favour of the introduction of the subject itself?—Yes, and I believe a large majority of the teachers would be the same, if you gave them sufficient time and trained them properly.

15416. Would you favour as with your view on how the teachers could get that instruction?—"It is very hard to teach an old dog new tricks," but I maintain all those in the Training Colleges should be instructed in it, and those teachers already trained who have not been instructed in it, and would be willing to receive instruction, could attend at the district centres for a course of lectures. I don't believe in the itinerant teacher, but if he is to be there at all, he could attend on Saturday and train the teachers at district centres.

15417. By district centres, do you mean official district centres throughout Ireland?—There are about 601.—You would want that at least. The teachers within, say, the district of Cork, could come to Cork; the teachers within, say, the district of Milstreet, could attend at Milstreet.

15418. When they attend in this neighbourhood, say in Cork, would it be in a separate building devoted to that purpose or would you select one of the schools already in existence?—A separate building would be the better of the two, but in place of that you could fix on a place like the Model School or the School of Art where a separate room could be provided.

15419. Speaking of the Cork School of Art, are any facilities afforded there for National schoolmasters getting certificates for drawing?—On the same basis as an ordinary child of the street could go in and pay his 10s. for a session and pass the Kensington examination.

15420. Are there any facilities for masters to get instruction in Art in the evening?—Only for the city teachers, those of them who have not certificates in drawing can easily get instruction there at a nominal fee, because, I take it, 10s. for a session is a very small fee.

15421. With regard to physical science?—I am very much in favour of physical science, I maintain it is far better education and develops the pupils' intelligence more than abstract parsing. I think agricultural chemistry should be in all cases—I would not say, insisted on, but strongly recommended—so that

when a teacher is lecturing on a soil he may make a mechanical analysis of the soil, or he may take uphorns and ground bones and show the manufacture of superphosphate. If you teach a boy that way you need not tell him a second time, but you must tell him what superphosphate is a dozen times in the ordinary course. I would also suggest teachers should have specimens of plants, flowers, seeds and cattle food, where they cannot have the farm or garden.

15422. A sort of museum?—Yes, I know a great many teachers have done that.

15423. And trained the pupils to collect them?—Yes, my boys will go out in the fields and collect any one of the grasses that are named in the text-book. With regard to the question of flower gardening, I think it is an utter waste of time, to talk to children about flowers if they cannot grow them. I think I have said in my summary that the teachers should be able to select about a dozen of annual, or biennial, or perennial flowers, and that those should be grown wherever there is a little garden attached to the school, and the children should be encouraged on those plots annually, and in no case should the teacher be required to cultivate all the plants named in the text-book.

15424. When you speak of flower gardens, do you refer to cottage gardens, or gardens for flowers alone?—For the first year in the fourth class, I would not go beyond flower gardening. I think an education on the growth of twenty or thirty flowering plants would be much better than the course they go through at present, which means a knowledge of 100 crops where they cannot see them.

15425. Anything beyond that you think might be carried out on the school farm?—The school garden would be the next step, where I would have kitchen garden vegetables and fruit trees too, but to think of teaching agriculture on a farm of five or six acres is absurd; for instance, you cannot have a threshing machine on such a farm.

15426. What would be the size of the farm on which you think practical agriculture should be exemplified?—Not less than twenty acres. I have also an idea with regard to the education of teachers at present, that is a place like Cork, where there is a dairy school, that the teachers should be at liberty on Saturday, or during their holidays, simply to visit the farm and see how theoretical agriculture is put in practical operation. The people in Dublin could do similarly at Glasnevin, and wherever there is a large farm. But you want something of that kind in every part of Ireland. Teachers in the south of Ireland must lecture on the growth of fax and many of them have never seen the plant. They must lecture on clay in Kerry, where there are not, perhaps, gardens within a great many miles in which it is grown.

15427. I may mention that yesterday at our visit to the Minister Farm the governor expressed a wish for the attendance of teachers and pupils out there. The next subject you refer to is L. bean?—That is utterly absurd, there is no use in talking to the child about bean if he cannot see them at work in the hive.

15428. What are your views about driving and poultry keeping?—They should become compulsory in girls' schools, boys won't become dairymen.

15429. How would you provide for those mixed schools, there are about 4,000 of them throughout the country, mixed schools of boys and girls?—I have not thought out the question, but at present boys must be taught dairy-management and poultry. I don't see why the girls should not be taught at the same time, it is optional with the teacher.

15430. Mr. STRATHEARN.—Does that mean that it is part of the course of agriculture?—It is part of the course of agriculture, management of poultry and dairying, people who never saw a churn must know all about it. The great mistake with the National Board is that they follow the text-book as it is written, the first

thirty or forty pages for one class, and forty more pages for the next, and so on.

15431. CHAIRMAN.—If the text-book were re-adjusted in a practical way?—Oh, yes, I would omit the teaching about live stock in the text-book. The inspector may ask a boy, "how much turnips would you give a cow to eat?" the boy answers "eight stone," and the boy understands that eight stone of turnips would be sufficient for a Kerry cow or for a shorthorn which would eat three times the quantity.

15432. On the twenty-acre farm you spoke of would you not make provision for a Kerry cow or a shorthorn?—I would.

15433. In arithmetic your view is that accuracy of calculation should be substituted for the higher rules?—Yes; children now must know all about two discount, I don't think any banker in Cork or Ireland practices two discount, because it is not to his advantage. There is a lot of time wasted on the tables. If we had the metric system, as Brother Burke said, it would be an advantage to us, that is why other nations get ahead of us. Now as regards this question of weights and measures, here is one of the questions set—convert so many fourpenny-bits into guineas; now the fourpenny-bit is abolished a long time.

15434. Do you not think it is quite in the power of the teachers at present to devote more attention to mental calculation?—So far as that is concerned it is a matter of money with the teacher, he will get a good report or a bad report under the subhead "mental arithmetic" according to his success, but he will get payment according to the number of passes the boys make under the ordinary arithmetic.

15435. The mental arithmetic ought to be devoted into the ordinary matter to carry a fee?—Yes.

15436. Mr. BRAUNMANN.—Not passing in mental arithmetic does not affect the payment?—No.

15437. CHAIRMAN.—Something like short accounts in proportion and practice, matters of obvious requirement in daily life, are what you advocate?—Yes, and you can develop intelligence very quickly. You could ask a boy the price of 2,300 articles at 11½d. an article, 2,300 is very nearly 2,400 and 11½d is very near 1s, if you develop his intelligence that way, it is better than asking him to find out the cube root of a decimal.

15438. At the time the alternative scheme was adopted for girls, the idea of the Commissioners was that short accounts up to proportion would be quite sufficient, and that they might devote the remainder of their time to industrial work?—I would prefer to introduce measurement in preference to higher arithmetic, I would make a figure on the floor with a piece of chalk and send the boy to measure it and that would be mental training.

15439. Am I to assume it is pretty much the same thing you would advocate for boys that the Commissioners tried to introduce for girls?—Quite so.

15440. And perhaps as a counterbalance for that needlework, something in the shape of manual instruction in wood and some addition to elementary physical subjects should be introduced?—Quite so, in a boys' school in the town agriculture is not compulsory, in female town schools needlework is, and you have no industrial subject to equalise the matter.

15441. Mr. BRAUNMANN.—Is book-keeping not compulsory?—It is optional in all schools.

15442. CHAIRMAN.—You would supplement that deficiency by the introduction of manual instruction in wood?—Certainly.

15443. Coming to the subject of grammar you think English composition ought to be substituted for, say, class parsing?—Of course it should be, a boy will be parsing for six years, and at the end say, "I done it," instead of "I did it," whereas if he had been taught English composition properly he would not say that.

15444. Is a text-book in grammar superfluous?—Yes, except to get off the index of syntax. To be candid I very rarely use it in the junior classes.

15445. Mr. HARRINGTON.—Do you approve of getting off the rules by heart?—I do, there are very few of them. I approve of analysis. If a boy knows the subject and object and predicate of a sentence, he has the whole sentence in a nutshell.

15446. CHAIRMAN.—How early would you think analysis of sentences ought to be introduced into the school course?—That would very much depend upon the analysis the inspector required.

15447. But your idea of simple analysis of sentences?—It would be quite as easy to teach analysis in the fifth as to teach syntactical parsing.

15448. With regard to the mode of giving instruction in geography you advocate in the first instance the instruction should be local?—Yes, if you drop on a boy in a school where the right geography is not taught and you ask the north, he may point to the ceiling and yet that boy might be able to tell you the height of Mount Everest, or that Mont Blanc is 15,000 feet. Boys have an conception of that height, I have to reduce it to miles, and say it is three miles. But if the height were taught by reference to the snow line, it would be scientific. I would introduce physical geography.

15449. Heights of mountains and lengths of rivers are not prescribed in the programme?—They are not, but they are pretty generally asked in the examination.

15450. Have you personal knowledge to that effect?—I have not heard any examiner in my school who did not ask it. The height of Mount Leinster, for instance, is generally asked.

15451. I suppose that unless in this way, that the first four chapters in the geography are required, so the inspector thought it necessary to put these questions?—It is not the inspector's fault.

15452. Suppose the teacher had the class up before a map of Ireland, a long pointer in hand and examined the pupils for the inspector, would not results be paid and the examination accepted?—I don't think it would, but it ought. I maintain that if an inspector examined it that way it would be a very good test of the school.

15453. Some are not in favour of physical geography, but you are, you think it ought to be maintained?—As an extra subject; I would not force it into a ordinary school house. You can introduce it with regard to elementary science, you can show how the height of the barometer is affected by the height of a mountain.

15454. Would you advocate instead of using a specific text-book in geography that geographical readers, containing interesting accounts of voyagers, should be used?—I started to put that into the summary I sent. When a lesson is told in a simple narrative with regard to a certain country it makes it very instructive. A child will follow it up in after years to know more about the country.

15455. Do you advocate map-drawing?—No, not for children, but of course it would be an excellent means for expressing the relative position of certain parts of the country in their memory, but it is a very elaborate affair.

15456. Suppose the teacher took a piece of chalk in his hand and went to a blackboard and outlined the Lee, and jotted down the different towns on its banks?—Yes, and he could also illustrate why the river went that way and not uphill, that would be teaching geography properly.

15457. You think freehand and mechanical drawing should be taught in all schools?—Yes in all places where it is possible, I would begin even with the infants' class, I would have chequered drawing slates in the infants' and first class, and chequered drawing copy books in second class and a chequered blackboard. In third class I would have the ordinary programme, but I would supplement that for simplicity sake. I would get a third class boy to make an oblong on his paper with a ruler and immediately under that to draw a freehand copy of it, and he might also know what

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a perpendicular line would be and what a horizontal line.

15458. Is not that practically carried out at present?—It is not, a child gets something chalked on the blackboard, and makes a simple copy of that, I would suggest the introduction of the ruler to give him manipulative dexterity.

15459. With regard to the capability of a teacher to give instruction in drawing involving a knowledge of construction, would you not require a certificate?—I don't see the necessity for mechanical drawing, for most teachers know as far as the third book of Euclid, which embraces most of the principles of mechanical drawing; if you want teachers to teach solid geometry they must get special instruction in that, but elementary practical geometry may be taught by any qualified teacher, who has gone as far as the third book of Euclid.

15460. If the instruction in drawing in a school, however, were confined to uses freshwork, would you allow a teacher without a certificate to take that?—I would—a teacher at present in the service. If you introduce a subject you must devise some means of getting it taught to the scholars. In England in 1891, every teacher who was in the subject for six years before, and taught drawing successfully in his school, had got a certificate called "Special D," but the Department does not care in England, I understand, whether the teacher has a certificate, as long as it is taught in the school.

15461. They judge by the result of his work?—That is the proper thing.

15462. You are in favour of measurement as a separate subject?—It should be separated from geometry, and could be taken at an earlier stage.

15463. Your views have been adopted by the Commissioners for the teachers, they have it as a special subject?—Yes, and they might begin with the pupils too.

15464. What is your experience about Sléid?—I think I have nearly detailed all that already. I am very much in favour of it personally, and the teachers would be equally in favour of it if they saw the way to carry it out, there is the question of accommodation, there is the question of the training of teachers, and the cost of material; which would in many cases fall on the teachers themselves, as the cost of traps falls at present.

15465. If three objections were obviated?—You would find the great majority of the Cork teachers would be in favour of it, and from discussions I have had with them I know they would prefer to teach it to the kind of passing we are compelled to teach.

15466. You had some observations to make on the results system?—I would do away with the results system. The results system neglects the intelligent pupil, the teacher's time is devoted to bringing the dull boy up to a standard which he, perhaps, is not capable of attaining, he perhaps attends barely the number of days, and he must answer the same questions as the intelligent child who has attended 200 days. I don't want to boast, but my results year terminated the day before yesterday, I had a boy who had ninety-nine days made before the last day, he went away to the races on the last day, and I lost him for the year. There was a temptation to me to mark that boy present, and run the chance of being reported to the Board, I would not blame the teacher who would have done it. The system is demoralizing.

15467. While you strongly advocate the abolition of the results system, what is your view about the results fees that are paid in connection with the system?—That would be a departmental matter, we could very easily adapt the English system, and if a certain proportion of pupils pass in a subject, the grant should be given and paid for all the pupils, for the teacher has spent more time with the dull pupil than with the brilliant one. An intelligent boy could have gone through the course in a year less than he does at present because he must wait for the dull pupil.

15468. Then the important thing is don't abolish payment for the subject?—Oh, don't abolish the payment.

15469. But change the form in which the money is obtained?—There is another defect, the classification of the pupils. I have got to teach agriculture, I may get a boy from the town, he is in second sixth and has not learned a word about agriculture, he must go through five years' courses in that subject in that year. I maintain I should be at liberty to present him in the fourth class programme in agriculture and sixth in other subjects.

15470. What about the children who unfortunately do not make the minimum attendances of 100 days?—They should be compelled to do so. We have a very roomy Corporation, there are 3,600 children round the streets of Cork who do not go to any school. The grant to the school should not depend so much on the teacher's results, as on his manner of imparting knowledge. That boy of mine who made 99 days ought to be very nearly as good as the boy who made 100, and I ought to be entitled to quite as large a fee, or a very large percentage of the fee.

15471. Then, assuming that a certain number would make the minimum number of days, and that the others, who did not, would also be examined, what is your view of how payment should be made?—They might make payment on a reduced scale for those who did not make the minimum.

15472. Mr. STRANAHAN.—Might it not do to pay on the average attendance of the whole lot?—That would be the really sensible plan.

15473. CHAIRMAN.—In connection with the annual results examination would you advocate examination by classes rather than of individual pupils?—Oh, by classes, because the teacher evidently gives the same instruction to all the class, and if eighteen pass out of twenty the inspector must come to the conclusion that that class is taught well, he is at present fined for not teaching the people he could not teach.

15474. In England there is a practice of neither examining the class nor the individual pupils, but of simply adopting a mode of inspection, that is, an inspector might go into a school two or three times in the year and form his opinion on what comes under his notice?—That is the best plan; at present we have no inspectors in Ireland, they are examiners for the twenty-three years I have been in the service I have not been more than two hours inspected in the school. When a teacher knows that an inspector is liable to come in every day and observe his manner of imparting instruction he will take care that he will come every day prepared to impart that instruction in the very best manner. I notice in the report of the English Department it is stated that the inspector and the teacher have become much better friends, and the teacher is more at liberty to improve his methods of instruction.

15475. Mr. HANNAH.—At present do you know the exact day the inspector will come?—Oh, yes, I know I will have an examination on the 26th October, and I can sledge away to crane till then. I am open to have two or three visits, but I am certain he will come on that day.

15476. Are those visits of inspection?—Yes; but that is simply to see that the teacher is an honest man. The inspector comes in and counts the number of boys in the school and sees those that tally with the roll, and then flies off to the next school.

15477. Mr. STRANAHAN.—He does not observe the methods of teaching?—No. Well, I must make an exception in favour of Dr. Alexander, and he is the only one I ever knew who does help the teachers.

15478. I gather that you are quite in favour of some extension of practical instruction in the form of drawing, at all events?—Yes.

15479. Also of kindergarten in the younger classes?—Yes; of course I cannot speak well for the kindergarten, but the drawing portion of the kindergarten I go in for largely.

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15482. What good do you suppose the drawing part of kindergarten does for the children?—First of all they learn to draw a straight line, for although you have the chequered lines on the slates, you very frequently draw on the blackboard a diagonal and the child has no guiding line, and he learns freedom of action on the chequered copybook. Then there is the question of counting, you put so many squares on the blackboard and the child learns to count them.

15483. We may take it that it trains the hand and eye, produces accuracy and observation, and on the whole tends to make them intelligent?—Yes.

15484. I think if you had experience in the other ordinary subjects of kindergarten instruction you would find that that pretty much applied to them all?—I believe so.

15485. You would be in favour, on these lines, of having kindergarten instruction conducted in the higher classes?—Yes, until you would be able to begin with practical instruction in manual training or experimental science.

15486. I would like to have it made quite clear that manual work in wood is in no respect different as an educational subject from kindergarten, it is a continuation of it?—Yes, that is the distinction I draw between *Sloyd* and technical education; I maintain technical education is training a child for a trade, *Sloyd* is educational, the other is utilitarian.

15487. You believe that that is often misunderstood?—Yes, people believe technical education and *Sloyd* are synonymous terms.

15488. You know that woodwork is really another form of drawing in kindergarten exercises?—Yes, because to do a model in *Sloyd* you have first of all to do a plan and elevation, and perhaps an isometric projection.

15489. And the object is to train the hand and eye and secure accuracy and develop intelligence?—Yes.

15490. You think that all these things are desirable in the school, I don't mean that every form of manual instruction should be taught to every class in the school, but some form of manual instruction should be taught right through the school?—In every case you should illustrate the work for the child.

15491. And naturally exercises for the more advanced classes should be more difficult than for the elementary classes?—Yes.

15492. And that is the reason for introducing such a difficult subject as woodwork in the higher class?—Yes.

15493. Coming to your difficulties in the way of introducing it, one was want of knowledge on the part of the teacher, that is a difficulty that can be overcome in the course of time?—Yes.

15494. By instituting proper training classes?—Yes, and introducing it into the training college.

15495. Another difficulty was the want of accommodation?—That is the chief want, that will cost most money.

15496. In order to have woodwork properly taught in a school one would require a separate room with special benches and tools, that means a considerable expenditure of money?—It does, the building of the house, not to mind the cost of tools.

15497. Which a poor locality could not be expected to face, so that in order to have manual instruction in the form of woodwork introduced into the higher classes in a rural school, there must be a considerable subvention from the State to support it?—Yes.

15498. But short of woodwork you could have drawing?—Yes, and you could have experimental science and agricultural chemistry.

15499. Don't let us go too fast, agricultural chemistry is not quite training the hand and eye like woodwork. Drawing would be a training of the hand and eye?—Certainly.

15500. Suppose we wanted to avoid the expense of tools and benches we might have cardboard work

which is not expensive?—Yes, but that is only a continuation of kindergarten.

15501. It is more advanced than any of the exercises set down in your course, and probably is quite sufficient in difficulty for children of ten and eleven?—Yes, but as far as I understand the *Sloyd*, as practised in Sweden, they have thrown over every other material but wood.

15502. They have not thrown it over, they began with woodwork and continued with it?—If I don't mistake, in Salomon's lectures he referred to trials in other materials.

15503. They did not try cardboard, they tried to teach bookbinding and smithwork for utilitarian reasons; that was not successful, and they confined themselves to woodwork for educational purposes. Teachers cannot be expected to teach a subject that will take a considerable time and a considerable training to qualify them, unless they get a sufficient recompense for it?—Certainly.

15504. If those points were satisfied the difficulty of introducing woodwork in the higher classes would be overcome?—They would disappear.

15505. Coming to the teaching of agriculture in rural schools, its object is somewhat different from woodwork and drawing?—It is both theoretical and practical.

15506. What do you suppose is the object of teaching agriculture at present in the rural schools?—To promote the agriculture of the country.

15507. Do you think it succeeds in effecting that object?—I think it does not.

15508. You don't suppose a boy of eleven or twelve can be taught anything of value about the practice of farming?—Not a bit. In a school in which I was teaching once I drew the attention of the principal teacher to the nonsense of teaching the subject, getting off a lot of names by rote. I asked a boy when rotation was to be sown, and he told me in March.

15509. Then we may take it that the teaching of agriculture in the elementary school does not have much practical effect in the training of farmers?—Not in the absence of demonstration.

15510. All the children attending a rural school are not going to be agriculturists or labourers. Do you think it is fair to teach a boy who is going to be a clerk the science of agriculture?—It is wrong both to him and the teacher, that is where the mistake system is quite at fault; if a teacher had freedom of classification he could send that boy to the business most suitable to him in after life.

15511. There must be many rural schools in which a fourth of the boys are not going to be farmers or labourers?—At least a fourth, they cannot all be farmers. If a farmer has four sons and sends them to school, one only can be a farmer, the other three will have to take the map of Ireland or some other trap for themselves.

15512. Then it is very unfair to teach those pupils a trade that they have no intention of following?—It is.

15513. As a matter of fact such a subject as agriculture should be taught to much older pupils and in special schools for the purpose?—Yes; of course flower-gardening could be taught in practice to very young children.

15514. For the practical purpose of training scientific farmers, who will improve the agriculture of the country, something is necessary which could never be obtained in the ordinary rural school?—It is absolutely impossible to improve the agricultural condition of the country by teaching the theory of agriculture to children.

15515. There is another point the teaching of agriculture might be supposed to serve, that is the training of the intelligence. Do you think the teaching at present develops the intelligence of the children?—It does not in the absence of practice.

15516. Let us put aside what profit it is to be in their future life, and come to the point whether it

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succeeds in training the intelligence of children?—I don't think it does.

15515. Some witnesses have told us that they think it does to a certain extent?—It is a very limited extent.

15516. There are other subjects taught in school by which their intelligence might be developed in a much greater degree?—Yes.

15517. The teaching of drawing?—I would put that firstmost.

15518. The teaching of measurement with the ruler?—Yes.

15519. For the purpose of securing accuracy in the pupils you would advocate scale drawing, and making the plan and elevation of objects much more than free-hand drawing?—Yes, it makes the boy a more accurate observer.

15520. Do you think copying flat examples in free-hand has much effect on the intelligence of children?—It gives freedom of action, but I don't think it develops the intelligence of the children.

15521. It is a sort of athletic exercise?—It is for the fingers, but the use of the T-square and ruler and compass gives manipulative ability.

15522. Would you not say the same about the teaching of cookery and laundry work in rural schools?—I suppose it follows on the same lines.

15523. Many girls in those schools are not going to domestic service?—No; and they are not all going to be dressmakers.

15524. Is there any necessity that they should be taught cookery work and laundry work in elementary schools?—I should like to see cookery taught but not in the way it is attempted at present, high-class cooking with a range. In the majority of the houses of the poor there is no such thing as a range.

15525. Don't you think cookery and laundry work and subjects of that kind really ought to be taught to those who want them afterwards in special schools?—They should, and only to those.

15526. And that the business of the elementary school is really to give the pupils a sound knowledge of reading, writing, and arithmetic, and to develop their intelligence?—Yes, by all the means you can.

15527. And if an elementary school succeeds in producing children of intelligent minds and with habits of accuracy?—The schoolmaster will then have done his work.

15528. And the pupil will be able to enter on the work of the higher class with much greater profit?—He can find his way in the world.

15529. I think you mentioned £100 as being the probable cost of the equipment of tools, what else else do you mean?—A school of 100 pupils would perhaps have twenty Sloyd pupils.

15530. I would scarcely expect to many?—In the town school you may, with one fifth in the fifth and sixth classes.

15531. Those pupils might be taught in two divisions?—Yes, because a teacher cannot teach more than twelve Sloyd pupils at a time.

15532. Do you think any teacher can teach more than twelve pupils in grammar at a time? He may go to sixteen. The instruction in Sloyd must be purely individual, you must superintend each boy.

15533. Do you think it is easier to instruct a large class of forty or fifty in grammar than it is in Sloyd?—I think it is. If you take a class of forty or fifty boys into a classroom, where you are apart from the noise of the rest of the house, and if you lecture, the whole of the boys will take in what you say.

15534. Do you think so?—I think so. I don't mean to say you could teach them effectively, the smaller the number, the better, but you could teach grammar more effectively to forty or fifty boys than you could teach Sloyd to twenty boys.

15535. I think you recognise that lecturing is not teaching?—Of course it is not.

15536. There is very great danger of a class learning less in proportion to the amount the teacher lectures?—Because the question of supervision comes in.

15537. Real teaching consists in giving the pupil a problem to do which he must work out himself with as little help from the teacher as possible?—The teacher should not help the pupil at all.

15538. And that applies to grammar as much as to any other subject?—Yes.

15539. So for thorough teaching of grammar a small class is as necessary as it is in Sloyd?—It is.

15540. A class of twenty-five should be taken in two sections?—It should be, fourteen or fifteen at the outside, it has been found in Sweden that twelve is the utmost a teacher can attend to.

15541. Well, as a matter of fact they teach twenty-four and twenty-five in the Stockholm schools. These fourteen or fifteen pupils would not require £100 to supply them with tools?—Very near it, you must have a complete set of tools for each boy.

15542. Have you worked out the question practically?—I have.

15543. Your results then seem to differ very much from that of other teachers?—There is the question of the benches to be taken into account, you can make them cheaply, and you can make them dear, if you go in for earnings you want a table.

15544. Turning is not a necessary part of wood-work, or of Sloyd?—But there are many articles you want to turn.

15545. I presume your view is that grammar should be taught in so far as it is useful to make children understand the structure of sentences?—Yes, and to write a letter.

15546. And if a man can really write a piece of composition in good English, with properly constructed sentences, you may presume that he has a sufficient knowledge of grammar?—I think it would be quite enough for the ordinary pupil in an elementary school.

15547. On the other hand, a knowledge of a certain amount of formal grammar would be an assistance to the teacher in teaching composition?—The rules of syntax should not be omitted.

15548. And you must know the parts of speech?—I would not exclude them.

15549. Those would still continue to be taught, not so an end in themselves, but as proper means of teaching composition?—Yes.

15550. And we might take it that that end had been secured if the composition was really good?—I should say so.

15551. About the influence of the results system, may I take it that your view is this—that if you have a really good school, taught by a man who is thoroughly interested in his work, we may assume that each individual pupil will make what progress his abilities and attendance admit of?—Quite so.

15552. And that you cannot really force a dull pupil beyond a certain point?—You cannot.

15553. And it would be much better—I am still speaking of your view—it would be much better that we should attend to the general quality of instruction in the school and leave the individual pupil to derive what benefit he can from this instruction, which is admittedly good?—Certainly, that is my idea, if you do otherwise you neglect the intelligent pupil who is quite as entitled to the teacher's time as the dull pupil.

15554. And you think that with such a change in the method of payment and examination, with the consequent modification in the teaching of grammar and geography that the system would necessarily lead to, you would find plenty of time for practical instruction in drawing and woodwork and kindergarten and elementary science?—Yes.

15555. And that by such a course you would secure much more really intelligent pupils than at present?—Yes, but I should like to qualify the question of

15570. In a great many rural districts the children are away from the schools for days at a time, and excellent teachers have told me that they have often to work double the minimum time to bring up to the standard the children who have been away from school.

15571. That is done voluntarily?—It is not voluntary, he must work to get them up to the mark, for they will make the necessary attendance.

15572. You consider the minimum necessary attendances are quite insufficient?—Yes.

15573. Are these children necessarily absent such a length of time?—Yes.

15574. Could they by no means be brought to the school for a longer time?—In many cases they could, they stop at home for very trivial excuses.

15575. Have you any idea of how these children might be induced to attend more regularly at school?—You have got to force them to come to school since for education came in.

15576. Do you think force is the only remedy?—Yes.

15577. Do you not think a more attractive programme will bring them?—It might, but force is the only remedy for the recalcitrant parent. If the parent insists on the child going to school the child will go.

15578. But there are many parents in this condition that they are indifferent?—It is the indifferent parent I would compel to send the child to school.

15579. But when we have no compulsion it would be a good thing to make the school curriculum attractive so that the child will come rather than stay away?—The really good child will come unless the teaching is very bad, the "nicker" won't come to school whatever the attraction, for if there is a horse race or coursing, or a football match in the neighbourhood, he will be the first there.

15580. The universal evidence in England is that where manual instruction and physical science are taught the children find these things attractive, and the attendance has improved?—I have heard that so.

15581. CHAIRMAN.—Do you say that a range was necessary for cookery?—No, I say it is not; it is necessary to teach children cookery with the appliances that they would use at home.

15582. Mr. HARRINGTON.—I see after your name occurs "suggested by the Cork Teachers' Association," are you authorised by the Association to give the views you have given?—Yes, I was sent here by them; but I cannot say that all the views I have expressed are theirs.

15583. You think that generally speaking the views you have expressed here represent the views of the teachers?—Yes, as far as the town teachers; my friend, Mr. Guiblin, will speak on behalf of the city teachers.

15584. It was said to us in Dublin by one of the representative teachers that the views he gave expression to were practically held by all the teachers in Ireland?—I would not go so far as that.

15585. And his views differed very much from yours as regards the manual training?—Yes, radically; and I am they would not have kindergarten in the Dublin schools, but the Cork people see in favour of it.

15586. Then it is not correct to say of the teachers of Ireland generally that they are opposed to the introduction of the manual training?—I am instructed to say that if you train teachers, if you give them sufficient accommodation, and curtail the literary programme to give them time for manual instruction, they are in favour of it.

15572. And pay them for it of course?—And pay them for it of course.

15573. Your difficulties are only difficulties of means in carrying it out?—We don't want to turn the schools into tinkers' forges.

15574. You are in a fairly agricultural district?—Yes.

15575. It has been stated to us by many witnesses here that the education, especially in the rural schools, is altogether of too literary a character?—I believe it is.

15576. The book that is at present in use in the National schools, do you consider that is too elaborate a work?—Entirely. I notice that in the last report of the Commissioners the percentage of passes in agriculture is the lowest of all the compulsory subjects, while the fee is the highest. If a smaller amount were attempted it would be much better done. I would have flower gardening for the fourth class and nothing else, and that practically; I would go for the kitchen garden in the next stage, and the cultivation of farm crops for the next. I would have analyses of soils and manures for the first sixth class, and experimental agricultural chemistry for the highest division. I would leave out altogether the question of bee-keeping, live stock, dairy management, and poultry.

15577. Don't you think the question of bee-keeping and raising poultry, and dairying, is rather outside the scope of an ordinary National school?—To be sure it is.

15578. Is it not the idea generally in Ireland that the ordinary agricultural labourer is very unhandy?—He is.

15579. Do you attribute that fact to the want of manual training in the schools throughout the country?—I believe manual training in the schools would do away with a lot of his unhandiness.

15580. With regard to the teaching of elementary science, do you think that could be carried out properly by ordinary teachers without the assistance of itinerant teachers?—You might have the itinerant teacher in the case of a teacher who knows nothing about agricultural chemistry or experimental science, but an ordinary teacher could qualify himself easily; he may make a few failures, but he could illustrate a great many things in connection with the analyses of soils and manures with very little help.

15581. Do many of the National teachers in this district go to the local School of Art?—I don't know, I have never been in the School of Art, but I know a number of us last winter rented a room in the School of Art for ourselves, and had a mutual improvement class, and many of the teachers went in for certificates; some of the teachers were over fifty years of age, that is one point that would prove the teachers are not opposed to this subject.

15582. CHAIRMAN.—Had you a professional teacher for the subject?—No, one of ourselves.

15583.—Mr. HARRINGTON.—How would you get over this difficulty—suppose the room could be provided, and the appliances provided by the State for the introduction of this manual work, where there is only one teacher?—It must be taught in that case by a special teacher, or if the ordinary teacher is qualified it must be done out of school hours.

15584. Mr. SPROTHERS.—Saturday forenoon would be a useful time?—It would be out of the question altogether. I have seen it tried by a manager most anxious to get the children to school on a Saturday, but he had to give it up. They will come to town on Saturdays, especially if they have market tickets, and if the children don't come to town, their parents do, and the children have to stay at home.

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Dunnehy.

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Mr. F. Gamble.

Mr. P. GAMBLE, Teacher, Trimbett's Lane National School, Cork, examined.

15585. CHAIRMAN.—I see you state that you are Honorary Secretary of the Cork National Teachers' Association?—Yes, sir.

15586. Are we to understand, before you put forward your views, that in your evidence you represent the views of the association?—We have two associations in Cork, the Cork City National Teachers' Association, and the Cork City and County Association. We called a meeting of both of these associations together to know who would go forward before the Commission, and Mr. Deaneby and I were selected.

15587. Mr. Deaneby represents the rural portion and you the city?—Yes.

15588. Then the expression of the views of you two gentlemen may be taken as the views of both associations?—In our direct examinations, but of course we have to fall back on our own convictions in cross-examination.

15589. You state that you think the children are too young to derive advantage from the handling or use of tools?—I am putting it that under the existing circumstances the teachers are opposed to the introduction of manual instruction in woodwork in schools; first, they think that a teacher to give instruction in it should be master of the subject, and we are not masters of it, secondly, we should have made accommodation to give instruction, and we have not. Thirdly, the amount of literary matter a child gets in the essential subjects at present before he leaves school is the least that we could expect he would go out into the world with, and the only subjects you have to draw from are grammar, geography, and in the higher classes, arithmetic. And besides, the children, when they leave the general run of National Schools in the city, leave at the age of ten or twelve, and, we think, at that time it is scarcely possible the child can derive any advantage from the use of tools.

15590. You say the children about Cork leave between ten and eleven, in what classes?—Fourth and fifth, as a rule.

15591. Have you any idea in the schools within the circumference of your association how many pupils are in the senior division?—No; in a school of say 100 or 105 the sixth class will fall to five or six.

15592. And then fifth class, the two stages?—It will vary, especially according to the locality. In the poorer localities you will often have no child in fifth or sixth; in the better localities you will.

15593. Scarcely three pupils in the fifth and two stages of sixth must be older than between ten and twelve?—Yes, of course.

15594. Would not that be the class of pupils for whom manual work would come in properly enough?—We take drawing as the basis of manual work, and we think the children would be more judiciously employed in drawing.

15595. And the drawing may commence at a very early period?—At third class.

15596. The first difficulty suggested by your Association is want of acquaintance with the subject on the part of the teachers; but you have heard, I think, evidence to-day that perhaps provision may be made in training colleges, by means of itinerant teachers, and by attendance at special centres, and in that way in time, large bodies of teachers might be made acquainted with the subject?—Of course if the circumstances change we change. We are working under a system at present we consider rigorous to true education.

15597. The next point is the absence of accommodation at present, and if that difficulty were got over by suitable provision being made for buildings and for their proper equipment, then your objections would vanish?—In that also.

15598. The third is that the literary subjects are at present quite sufficiently numerous?—That is, that the literary matter a child acquires is the least he should acquire in going out into the world to take up

any trade or occupation afterwards, and you cannot draw from the time devoted to subjects such as reading, writing, and arithmetic.

15599. You refer to grammar, geography, and higher arithmetic?—Yes; the time saved from them could be devoted to drawing.

15600. Would you confine any time saved to drawing alone?—Drawing alone, you cannot save more than two or two and a half hours a week, and that is the least time a child should get for drawing.

15601. But you have drawing taught in many schools?—As an extra subject outside school hours.

15602. It was taught last year in 1,000 schools in Ireland under certificated teachers, consequently it is not any objection as to manual instruction in woodwork?—Oh, no.

15603. So that difficulty might be got over?—Yes.

15604. You are of opinion that drawing should be compulsory?—Yes, from third class in town and city schools, we think that drawing from its importance should be a compulsory subject.

15605. And would you any taught only by regularly certificated teachers?—No, the certificate the teacher gets at present is little good to him in the teaching of drawing, if a man is a student, and can make sixty per cent on a piece of drawing within an hour, he gets a certificate, that tends to make the teacher become a student, and he forgets that afterwards he has to teach the subject to the children. At the present time we get no credit for being able to teach the subject. We would say that part of the credit should be given to the man who is able to instruct a class, able to teach drawing, and part to the man who is able to draw alone.

15606. Skill in drawing and ability to teach the subject united?—In the case of new appointments we would have an assistant qualified to teach drawing in a school of sixty; we would have an assistant for an average of sixty on account of the extra work, we think seventy too many. In the case of a teacher of a small school not qualified, we would have him get instruction in the shape of lectures at first, and let him present the third and fourth class the first year in drawing, the third, fourth, and fifth the second year, third, fourth, fifth, and sixth in the third year, and if the results were satisfactory he should be entitled to teach it.

15607. Then by the operation of the training colleges and this skillful adaptation locally, the subject in a short time might actually become compulsory in all schools?—Yes, but a teacher who wishes to impart his instruction to pupils derives little advantage in the schools of art or training colleges.

15608. Do I understand you to say that they are not taught how to teach the subject?—No, the drawing is placed before you, and if there is a defect in your drawing it is pointed out to you by the drawing master once or twice a week, and the same in the school of art where I got my certificate.

15609. Does not the master go to the blackboard and outline the figure?—No, I would not mind that so much as the school of art because it is students who attend there, but that was a defect we noticed in the training college: the teacher of drawing seemed to think that his success was judged by the number of teachers that got certificates in his year.

15610. The teacher of drawing in St. Patrick's, Drumcondra, came before the Commission and stated that his mode of imparting instruction was that he went to the blackboard and outlined the figure, and as he drew the teacher drew after him, and he gave them instructions how to teach the subject?—My experience is different.

15611. If it were properly carried out, your idea is to have drawing made compulsory in all schools?—Yes, we see the advantage of it in the ordinary subjects, such as arithmetic, and writing, and in the

training of the hand and eye, and also in the after occupation of the child.

15612. What is your view of the statement that a man who can draw well can write well, and a man who can write well will draw well?—I doubt that. A man may write well and write a different hand to the hand he teaches in the school, it does not follow because a man is a good scholar he should be a good teacher.

15613. Of course in connection with drawing you advocate chiefly drawing to scale?—Free-hand drawing at first. In the second stage of sixth class we have at present shading, instead of that I would have drawing to scale.

15614. In what class would you begin the free-hand?—Third class.

15615. You have drawing in connection with kindergarten?—Yes, you leave kindergarten at present in the second.

15616. The drawing would be one method of continuing kindergarten into the upper classes?—It would be our link.

15617. You are in favour of having kindergarten taught in the classes up to second; why do you limit it up to second?—You get two new subjects in third at the present time, up to second you have not these subjects, and you have more time, and there is often a difficulty in keeping little children employed.

15618. Your observation comes in for ordinary pupils, not an organized infant school?—Yes.

15619. But if you had an organized infant school would you not desire a continuation of it to the higher classes?—If possible; but I think the children must leave at nine years an organized infant school.

15620. Then the continuation of the kindergarten, so far as drawing is concerned, might be carried on in the higher classes?—Yes.

15621. Have you worked out in your own mind a practical scheme of developing that kindergarten?—No, I have not.

15622. If your Association would turn their attention to that it would be advantageous?—We think of course that the teacher of an ordinary school should be allowed facilities to get a certificate in kindergarten, and that without separate class-rooms or furniture he should be allowed to teach it.

15623. If an ordinary schoolroom. If a teacher is qualified to teach kindergarten that ought to be a recognised branch of instruction, and the restriction of requiring special rooms and furniture and a special teacher for the subject should be done away with?—Yes.

15624. We all know that special furniture for kindergarten was a mere expedient—strictly speaking it was taught in the open air—the children's garden. You are in favour of having geography, grammar, and arithmetic a little curtailed?—Yes, in the higher classes.

15625. Would you agree with Mr. Denney in the views he expressed?—Yes, in the main I would agree with Mr. Denney.

15626. That the intricate problems of higher arithmetic might be dispensed with largely, except in the case of persons qualifying for the teaching profession?—Certainly; you will find when the child leaves school, if you follow him afterwards, he has forgotten all these things, partly from the system and partly from the intricate subject.

15627. The time so gained you think might be devoted to letter-writing, and you agree with Mr. Denney as to analysis of simple sentences also?—Yes.

15628. You have introduced a very nice point here; you are strongly in favour of having local libraries and museums?—In connection with the school.

15629. Do you know of any instance where your idea of the museum is carried out?—Except in connection with the Christian Brothers' school.

15630. No National school?—No.

15631. Is it not in the power of the teacher to make a beginning himself by inducing the pupils to go round the country and bring in anything they are not acquainted with, and get instruction on 'it, and make a little collection?—Yes; but the way we are put a teacher always has an eye to a larger school, and is not so much interested in the smaller school.

15632. That is an accident; but would you advocate having something of the kind?—Yes, the more use you make of the hand and eye the better for the teacher.

15633. Would the library be a leading library for the pupils?—Yes, books of natural history and travel; a boy, say, by reading "Robinson Crusoe," would derive more advantage from it than if he were twelve months learning geography.

15634. You are in favour of introducing Science Readers; would you have that accompanied with practical work?—Decidedly. In the College I went through, the lecturer had no appliances to illustrate his lecture; one lecture in the week was illustrated, and that was at the Catholic University.

15635. At that University had you not suitable appliances?—Yes, for one lecture in the week only; we had two on magnetism and electricity, or on light and sound, every week, in the College, and the mechanics were taught there, and we had no illustration.

15636. The last subject you say is to provide suitable Readers for the children?—Yes, we think the Readers on the Board's list are not suitable to the ages of the children. In the Sixth Book there is a lesson on the Study of Words; there are pieces brought in from Shakespeare, and the children are asked to explain those pieces, which we think impossible in the sixth class. We also think, in order to vary the thing, the Fifth and Sixth Book Readers should be divided into two parts, and, if possible, to have them published by the Commissioners, because it is cheaper, and a penny or two pence in the price of a book is a good deal to the ordinary pupil attending a National school.

15637. Do I understand you to mean that the Commissioners should undertake the publication of a variety of Readers?—No; one suitable set. The Fourth Book at present can be had for 3d., whereas if you go to other Readers they are 6d. or 8d.

15638. Would you not think it desirable to give freedom of choice to local parties about the selection of Readers?—Decidedly, but in the poorer localities the teacher has great difficulties to make children buy books, and these difficulties don't count at the end of the year when the Inspector comes round to examine.

15639. Suppose various Readers were sanctioned of a suitable kind, and comparatively inexpensive, freedom of choice being given to local managers and teachers to make a selection, would not that be superior to having it narrowed down to one set of books, because they were cheap?—I would not narrow it down to one set; I would have that set go on the market at the same price.

15640. Would you prefer that the Commissioners should be the publishers, or leave it to local publishers and traders, large firms?—I would have both publishers.

15641. Of course, always provided that there was no objectionable matter in the school books?—Yes.

15642. Mr. BRIDGMAN.—You would prefer a wider selection of reading books?—Yes, sir.

15643. Such as, you say, those published by many firms?—Blackie, Thomas, and the Commissioners, and let the teacher select the better books.

15644. Up to the present you are confined to one set of books?—Up to the present we were, but we are not in the future; there is one set by the Commissioners, another by Thomas, and another by Blackie—all the big publishers were invited to put a set into the market.

15645. That arrangement is sanctioned?—It is not, I think, until the 1st November.

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15645. When you get these books of the Commissioners, do you get these books at a reduced price?—No, at the cost price, which is often 1d. or 2d. less than the price of a class book from another firm.

15647. Would this suit your views, that the Commissioners should advance the extra 1d. or 2d. to enable you to get that book if it were a suitable one?—At the present price we think they could have a suitable book.

15648. In your general views as to manual instruction you agree with Mr. Denchey?—Yes.

15649. You attach great importance to instruction in drawing?—Very great.

15650. And you would have that connected with kindergarten work?—Yes; continuation of the kindergarten.

15651. Because it serves the same purpose, does it not?—Yes, hand and eye are both brought into play.

15652. There is a considerable misapprehension about kindergarten; it is supposed to be one sentence, but it is forgotten that kindergarten is more the spirit of teaching than any particular form of it, that is the cultivation of the child's activity, which may be done in many ways, of which drawing is only one?—Undoubtedly.

15653. What kind of drawing would you have taught in the higher classes of the school?—Mechanical and freehand drawing.

15654. You mean copying from the flat?—Yes.

15655. What do you suppose is the value of that drawing?—It trains the hand in the first place, and trains the eye very much. For instance, if a child has a drawing, and commences at the left side of the guide line, he has to compare that with the right side when he goes to it, and the eye is trained by that comparison.

15656. You don't think he could be made to copy the form of an actual elevation instead of copying something from the flat or a book?—It would be very hard to do that in a National school.

15657. You think the freehand drawing is of value as giving a certain training of the hand and eye?—Yes.

15658. And you would also have drawing to scale?—Yes, in order to cultivate accuracy.

15659. So that they should be able to recognise that one-eighth is not the same as one-sixteenth?—Undoubtedly.

15660. Would you have drawing plan and elevation?—I don't think you could introduce it into a National school.

15661. Have you tried it?—Yes, in the higher classes.

15662. If I want to give an order to a joiner for a certain box or table, it is so very useful, so very easy for me to make a plan and elevation of it, and if the tradesman has any simple knowledge of drawing, he is able to construct the thing I want from that drawing?—The only class you would succeed in is second class, and you might substitute it for freehand shading.

15663. Don't you think you could introduce it in the fifth?—I don't think so.

15664. It would be worth trying, would it not?—Yes; we think that when a child shows a liking for a subject like drawing we should encourage him rather than hamper him.

15665. If you consult the evidence already given you will find the criticism of the two standards corresponding to your second class understood plan and elevation?—There the child has more school life than in Ireland on account of compulsory attendance.

15666. Admitting that, there must be a great difference between second and fifth classes?—Undoubtedly.

15667. And if the second class in Birmingham can understand plan and elevation, surely the fifth in Ireland ought to be able to do so, without taking into account the acknowledged greater smartness of the Irish children?—I think so.

15668. You are strong on the value of drawing, but you are not quite sure whether it would be advisable to add to that some form of manual instruction in the higher classes?—I cannot see how we could get time for it.

15669. Suppose we got over that difficulty, do you think it is desirable they should have it?—I think it would be very good.

15670. For instance, if a boy constructs something from a drawing, he understands that drawing much better?—Undoubtedly.

15671. A boy may copy plan and elevation and not have a real understanding unless he applies them to solid objects?—Yes.

15672. So that the teaching of manual instruction is a means of making the drawing instruction more effective?—We believe so.

15673. And it would be desirable to have it taught if only there could be time?—Yes.

15674. And that would be a matter for all parties to consider, as to how we could find time?—Yes.

15675. Of course time might be found possibly by re-arranging the present programme?—I don't see any way to find time from the present programme.

15676. By re-arranging it?—I think you give the best possible time to the essential subjects under the present programme.

15677. What do you consider the essential subjects?—Reading, writing, arithmetic, and spelling.

15678. What do you mean by reading?—do you mean power to read a set book after a year's practice?—I think a boy should be able to take up a newspaper and read it intelligently.

15679. You would not ask him to read a leader?—I think the language of the leader as just as simple as the news of the paper.

15680. Would it not be a fair test for a boy leaving school to be able to read a narrative in a newspaper or elsewhere at sight, not a piece he had in a book before him all the year, and that he should be able to understand it?—Yes.

15681. Be able to tell what it meant in his own words, even to write it down before he left school?—Yes.

15682. Then the arithmetic—arithmetic again is an indefinite term, because you propose yourself to exclude parts of arithmetic at present taught?—He should be fairly quick and accurate in the ordinary calculations.

15683. You think really practical command of ordinary calculations of prices, and so on, is much more important than calculations as to stocks, which the pupil will probably never buy, or true discount, which does not exist?—Yes.

15684. So mental arithmetic should receive more attention?—It receives attention at present.

15685. But I understand it is not taken into account in estimating results?—It is at the present moment.

15686. Would it be necessary to devote the whole school day to acquire a sound knowledge of these subjects up to the stage you have mentioned?—I think so.

15687. There would be no time for the teaching of grammar and geography?—You must modify the teaching of grammar to give time for it to give to the drawing.

15688. I am speaking now only of the absolutely essential subjects—reading, writing, and arithmetic—up to the stage you spoke of; would it require the whole school day to be devoted to these?—No, but we give part of the school day to grammar and geography.

15689. Do you think it would require the whole school day to give a child a sound knowledge of these subjects?—No.

15690. There would be some time over, and to what would you devote that?—Drawing.

15691. Would that occupy the whole time that would remain?—It would not.

15492. What other subjects would you propose to teach after that?—Grammar and geography on a smaller scale than at present.

15493. On a different programme from at present?—Yes.

15494. Then, taking drawing before grammar and geography, you would leave those to be taken in what time you could spare after you had taught drawing in addition to the essentials?—Yes.

15495. About science, you say you would have a theory and museum attached to the school, in order to make the school attractive?—Yes, to the children.

15496. And I presume also to teach the children?—To make the teaching practical, as it is not at present; it does not pay to be practical under the present system.

15497. What do you suppose we come by the teaching of science?—There is a training of the hand and eye also in science.

15498. But if you have drawing hand and eye is trained there, would it also be necessary to teach science?—I would have it after drawing.

15499. I have no doubt you consider science serves some larger purpose than training the hand and eye?—It begins accuracy also in the child.

15500. It does not begin accuracy if the teacher tells the child something he afterwards repeats to somebody else?—That is not teaching science, the child should make the experiments himself.

15501. You think it very important that the child should make the experiment himself?—Yes.

15502. And the child does not understand anything he does not do himself?—No.

15503. In order to have experiments that a child should do himself, they must be very simple?—Undoubtedly.

15504. In fact, experiment is too strong a word?—Rather.

15505. If you get a boy to take an accurate reading of the thermometer each day and record it in a book, that would be a training in accuracy and scientific training?—Yes.

15506. If in addition you sent a boy into the playground at a certain hour and made him measure the length of a shadow cast by a pole, and sent him out at the same hour a fortnight after to measure the length of it again and record that in a book, and so on for a series of observations, those are things a boy could do quite easily?—Yes.

15507. And those would be a training in accuracy?—Yes.

15508. And a teaching of science. You don't say anything about the teaching of agriculture?—I have nothing to do with it.

15509. On general principles would you favour the present method of teaching agriculture in rural schools?—I taught agriculture in the city for years, and passed children through the routine examinations, but they had not an idea of what they were learning; we examined them as you would cram fowl.

15510. It was not teaching science?—No.

15511. I have mentioned two or three very simple things that would be useful scientific teaching. Suppose for an advanced class the children have a series of pots, one which contains a sanctified earth, another with a certain proportion of manure, and a third with a different manure, and the children plant the same seeds in these pots and observe the results, that would be useful training, would it not?—Undoubtedly.

15512. That would give them a real knowledge of what the manure did?—Yes, they could see the result of their own work.

15513. And similarly the children might be made to make collections of useful plants, and of hurtful plants, and of weeds that damage crops?—They should be encouraged to do it.

15514. And they might be trained to do it systematically?—Undoubtedly.

15515. In order to carry out such a scheme of science instruction, it would be essential that the

children should not be examined at large on what they know about certain things?—Of course.

15516. The essential thing would be that the inspector and examiners should have evidence from their notebooks that this work had actually been done by the teacher, and these observations actually made, and they should not be questioned about things that did not come within those observations.

15517. Rev. Dr. WILSON.—Subject to the three exceptions that you have mentioned, I presume you would be favourable to the introduction of manual instruction?—We are working under a system at present which we consider injurious, and we would gladly accept any other system for the good of the pupils.

15518. One of your exceptions is the accommodation; we would never think of asking the teacher to introduce manual instruction without providing accommodation, we would ask the Government to provide proper materials, that exception need not be entertained?—That does away with the difficulty.

15519. But the second is that the teachers are not sufficiently acquainted with the work so as to give the instruction, that would be remedied in course of time by gradually introducing the teachers to a knowledge of what they have to teach?—From our experience of the training colleges we think that a great defect, if teachers are not practically trained there at present, it is hard to think they would be trained in this work also.

15520. Your third objection is more serious, that the children have not sufficient literary knowledge when they leave school; it surprises me to hear that they leave between ten and eleven?—That depends on the locality; children in the poorer districts leave as soon as they are confirmed—across the sacrament; they get 4s. or 5s. a week as messengers, and that is of great importance to them.

15521. CHAIRMAN.—You don't refer to factory children?—No.

15522. Rev. Dr. WILSON.—Always assuming that we, as Commissioners, would endeavour to protect the incomes of the teachers and secure that no change would affect them injuriously, would you not think it better that we should have less literary instruction and some manual instruction for the mass of the population?—My idea of the literary instruction at the present day is that it is the least you can give a child and send him into the world afterwards.

15523. There are a great many departments of algebra and higher arithmetic, and if a man is to be a coal heaver or wagon driver, would he not be better fitted for his afterlife, if, instead of learning them, he were taught the use of tools?—They are generally taught after school hours.

15524. We make a programme that contains a good many things that are useless for nine-tenths of the children of Ireland?—We think so ourselves, but we get money for teaching them.

15525. As long as a teacher is largely paid by result fees we cannot in justice to him, interfere with the literary subjects. Suppose we could modify the basis on which teachers could be paid, do you not think we might have better education without result fees; for instance, you have the dull scholar, who may represent the masses, you have them comparatively uneducated, and you cram the others?—We consider there are three evil steps in the result system, you assume every child going to the school has an equal proportion of brains, that they will make an equal amount of attendance; and third, that they are equally equipped as regards worldly affairs. One child is quick, another is dull, the quick child is neglected, he is thrown back, he learns to be lazy—he has no self-reliance. If we find a child that is sure to excel at drawing, we have no interest in the child, he cannot get more than the half hour devoted to the subject on the programme. If we had not the result system at heart, it would be our interest to encourage that child. There are scholarships at the School of Art for National school children, it would be our interest to try and

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pass him into the School of Art; he may show some genius there and become a great painter, as Thaddeus (Jones) did out of the School of Art. The result system kills that.

15726. Mr. STRUTHERS.—You say the children are too young to receive any advantage from the handling or use of tools?—We think so.

15727. From practical experience?—The tool the child will use will be the ordinary tool, and we think that too heavy for a child of ten or twelve years.

15728. It is so in England, children of eleven use the ordinary joiner's tools; and in Sweden the normal plan, which regulates the instruction in all the schools in the country, except in a few exceptional cases, provides for instruction inloyd in the first class of the folkschool, that is, for pupils in their tenth year, and then they begin with the knife only; they begin to use the saw and plane within a couple of months?—I did not know that.

15729. Mr. HARRINGTON.—I was just going to ask practically the same question. Professor Selomon was

asked with reference to the age of the children.—“At what age do you think children can be taught the use of tools?”—and his reply was, that generally children can be taught the use of tools at ten years of age?—Well, a knife is a tool; a child can use a knife at ten, when he cannot use a plane.

15730. It was stated in Dublin by a teacher in a prominent position, with regard to kindergarten, that of the children who had come to his school, one half of whom had passed through the kindergarten school, the other half had not passed through any kindergarten, the latter were far more intelligent than the former—would you agree with that statement?—Oh, no, I think it is not so. We think for ourselves in Cork, just as these men think for themselves in Dublin.

15731. Your experience is quite the opposite?—Quite the contrary; that a child who has passed through a kindergarten school must necessarily be quicker to pick up things than a child who has been on the streets, and never learned anything before.

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THIRTY-SIXTH PUBLIC SITTING.—MONDAY, OCTOBER 4TH, 1897.

AT 2 O'CLOCK P.M.,

At Cruise's Hotel, Limerick.

Present:—THE RIGHT HON. THE EARL OF BELMONT, G.C.M.G., in the Chair; THE RIGHT HON. C. T. REDENOVAN, M.A.; REV. HENRY EVANS, B.D.; REV. HAMILTON WILSON, D.D.; PROFESSOR G. F. FITZGERALD, F.R.C.D.; STANLEY HARRINGTON, Esq., B.A.; W. R. J. MULLOY, Esq.; and J. STRUTHERS, Esq., B.A.;

with J. D. DALY, Esq., M.A., Secretary.

The Hon. Miss SPENCE RICE, Coolinavea, Fynes, examined.

15732. CHAIRMAN.—You are prepared to give us some evidence upon the question of the supply of teachers; perhaps you would give in some detail, in your own way, what your views are?—The teacher for cooking and laundry—my idea is that there should be itinerant teachers in the rural schools (which are the schools that I have most acquaintance with), for the purpose of teaching cooking and laundry, and also to give opportunities to the resident teachers to qualify themselves.

15733. And do you include in your recommendation house cleaning?—Yes, I do. I think that is one of the most important things.

15734. Do you also think that classes in these subjects would be advantageous for the present schoolmistresses who wish to qualify themselves as teachers?—I think here and there there are women who would like to do it, and I think, politically, it would be desirable to give them the chance of it, because it would make them take up the scheme more willingly, if they felt somebody would not be put into their school, if they themselves would be sufficient for the subjects.

15735. Are you speaking only of the rural districts, or including towns?—Rural districts, including large villages.

15736. And do you include in the sort of subjects that should be taught dressmaking of any kind?—Plain dressmaking I think.

15737. Can you tell me whether there is anything done in the way of teaching cooking and laundry outside the large cities and towns at present?—Isolated instances, I had classes last year in two villages, and I knew a Polish Priest, Father O'Shaughnessy, near Newcastle, has held them.

15738. What do you say about the number and duration of lessons to the school girls, and over what period should they be spread?—I think it is much better to have them only once a week, going on all

the year round, but if the schools were very far distant you would have to change to, I think, half the time, and have two lessons per week.

15739. When the Commission was at Barrow-in-Furness we had an inspection of one of the schools in which there was a laundry class, and the plan adopted there is not a novel plan: it was to have the classes only once a year to train the children thoroughly during whatever period was allotted to it, and then to let them practice at home only during the rest of the year. What do you say to that?—I would not defer it altogether, but I am sure the other is the better—it has a more educational effect.

15740. You see the argument that the lady who had adopted this plan used was, that by having the lesson only once a week, the same child was not there for the whole of the week, whereas under the system she adopted the person who began the article finished it off at the end of the week?—But I think beginning with them as we are all agreed at ten or eleven years old you don't want to make little handmaids of them, you want to get them into the habit of doing work properly much more.

15741. At what age do you think girls should be taught these different subjects?—I would begin at ten or eleven.

15742. How would you arrange for such subjects being taught in the National schools?—A class-room, where there is one, makes it all easy, or where there is an infant school. I had mine in the National school; there was no class-room, there was a girls' school and an infant school, and we had the use of the infant school, but I should say it was during holiday time.

15743. How did you manage about the arrangements for cooking?—We cooked upon a grate in the schoolroom; we considered that was very much like what they had in their own cottages, and we used a Bantable oven, which can be put on any open fireplace, but you must use turf or wood.

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15744. What do you conceive to be the main importance of teaching right methods of cleaning from the beginning?—Well, I am sorry to say that the idea of real cleanliness is absent almost amongst our children; therefore I think you cannot begin too early to put it into them, and go on knocking it into them every week of their lives, and I think that is the only way it has any permanent effect, because we have often seen older girls trained to be servants, and directly they go to their own home it all goes away again, leaves no effect.

15745. Even if they have been servants for some time and pretty good servants?—Yes.

15746. How do you account for that?—Because it was not put into them young, and their own homes were not affected by it.

15747. I suppose they thought it was something connected with the place where they were servants, and had nothing to do with home life?—Yes.

15748. What do you say about the importance of making housewifery subjects interesting and attractive to the children, and also as to making them more acceptable to the present schoolmistresses?—They hang together very much, because I believe the teachers would welcome it if they were sure it would be popular with the parents of the children; and it would be so if they were once convinced that it was useful and advantageous; we have to convince them of that. So that public lectures by the organizer who is sent down to start these things in certain centres would be very useful.

15749. Is it your experience of schoolmistresses that they keep their own room where they live tidy?—No, only tolerable, most of them; but I have seen very few.

15750. Is not their instinct to do it?—No. I should say it is tolerable, better than many of their scholars, but not what we should wish it to be.

15751. What subjects of the ordinary course do you think could be curtailed or omitted to make room for those of education in housewifery subjects?—I think that grammar above all should be greatly curtailed.

15752. Well, how much time is given to the grammar lesson now, as grammar?—I am afraid I don't know; but I know mistresses, clever ones, have told me that it was very hard to put it into their heads, and they doubted if it ever reached their intelligence at all.

15753. In fact they don't put it into practice in their ordinary speech?—They don't. I should also curtail arithmetic and make it more practical, teaching simple bookkeeping and accounts would be very useful and they would appreciate that.

15754. Do you think geography could be curtailed?—Yes, if it was taught intelligently it might be useful, but it is not taught intelligently at present, it is only a string of names which conveys no idea to the children's minds.

15755. Do you think that grants should be made by the Commissioners of National Education out of funds that might be supplied to them by Parliament, towards the purchase of stock and utensils and fuel for laundry work?—Yes, all the appliances; but I would make children bring things to be washed; I would leave that to the local authority.

15756. That would be to bring clothes?—Yes.

15757. But you would have soap and fuel and water provided?—Soap and fuel and water and brushes, and those sort of things. To supply materials for cookery and needlework should be left to the local authority where the things made are useful, because you stimulate economy if they use the materials supplied in the neighbourhood, and you ensure its being suitable to the neighbourhood also.

15758. Do you mean the parents should supply the materials, or that they should be bought in the neighbourhood?—I mean the parents or somebody in the neighbourhood should do it.

15759. Do you think the parents should supply the materials for cooking, or could they do it?—I think

so, because where I had my classes we sold everything we made.

15760. But would the child of the ordinary peasant be able to bring the proper things for a cooking lesson?—I am not sure that they would like to have it to do; but I mean the teacher could get those things and sell them, so that she really would not want Government to give her money for it.

15761. What observations have you to make on the question of needlework, as it is at present taught in the National Schools, under the Industrial Scheme?—I think the Industrial Scheme has answered in the few cases where it has been taken up, and I attribute it to the character and capacity of the schoolmistresses largely.

15762. You are aware that some witnesses say it has failed?—It has failed in that so few classes have taken it up.

15763. But you don't think it has failed where it has been taken up?—No.

15764. Mr. Rimmer. —You have had experience of the teaching of cookery in two schools in the country?—Yes.

15765. Would you kindly give us your impressions as regards it?—Well, the children seemed interested and attended fairly well in both schools. In the more rural, Sharncliffe, attendance was rather the best; the other was Foyres.

15766. First of all, of what size are these schools?—I don't know how many there are on the rolls. I had 22 girls in Sharncliffe attending, and in Foyres rather fewer, 18.

15767. Who supplied the materials?—I supplied the materials and sold what was cooked.

15768. Was there a great loss?—No; no loss at all.

15769. Who supplied the utensils?—We bought the utensils. I may have used a few out of my own house, but I bought what the teacher said should be bought. The cost was £3 2s. for cookery and laundry, the utensils were of a very simple and elementary sort, but my teacher said that I should have to get cookery utensils, &c., for £3, and laundry for £1 11s.

15770. Might I ask how you disposed of the cooked dishes?—The scholars bought them, I think, in every case.

15771. But of course they sometimes failed in cooking a dish—who would buy that dish?—I don't think they did. I think it turned out what they thought nice.

15772. Did you confine yourself to simple dishes?—Yes, extremely simple; Irish stew and pancakes, and yeast bread and soup, which latter we made for about 5d.

15773. And boiling potatoes?—Boiling potatoes.

15774. I take it that those two schools might be called rural schools?—Certainly.

15775. And what was done in three schools might be done in others throughout the country?—Certainly.

15776. Did the lessons last during the whole school year?—No; I had the teacher for three months—twelve weeks.

15777. How many hours a week?—I think I had two lessons for each class. I had to put it in in shorter time than I would advocate, because I only had the teacher with me for a certain time.

15778. Was this teacher from the Kildare Street Society?—No, she was English, trained up in the North—Newcastle-on-Tyne.

15779. Had she a diploma from the National Union?—I don't know; she passed first class at Newcastle.

15780. Would you prefer the system of itinerant teachers of cookery to the system by which the teacher of the school would teach cookery as well as other subjects?—I think it all depends on the capacity. If the present resident schoolmistress has really the turn for it I would let her do it.

15781. Does not every schoolmistress know a little about cookery, and could she not do a little more?—She could, and I wish they should have every opportunity of attending cookery lectures, so that they

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Miss Spring
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should not be ousted in their own school if they have a capacity.

15783. Could you suggest a way by which they could be given instruction in cookery?—Yes, who ever comes down in the neighbourhood should hold classes for teachers as well as for pupils.

15783. I take it that these classes would have to be on Saturdays?—Yes, they would.

15784. You spoke of the teaching of house cleaning and housewifery?—Yes. It seems to me that it is best to amalgamate that with plain cooking, both as making it more palatable, and because the two naturally run together. I would say it is wiser for children to learn that they should be responsible for the room they cook in and take a pride in it, that the glasses of the window panes look bright, and the floor is clean, and the table clean.

15785. The room would most likely be a classroom connected with the school?—It would.

15786. Would there be much scope for housewifery work there?—There is the floor and table and fire-rooms, and I think that is as much as you can expect of girls in the elementary school, and it would put the essence of cleaning into their hands when they are young, which would be all important.

15787. In towns where you could have specimen rooms to be made up by the pupils, would you approve of a more elaborate system of teaching housewifery?—Certainly; I would bring the girls on to that later, but I think it would be hardly possible for them to do that when ten or eleven, I would reserve it for thirteen or fourteen.

15788. Do you think that the teaching of cookery should ultimately be made a compulsory subject in girls' schools?—Certainly.

15789. Would you include it then in the subjects of the industrial programme for sixth class girls?—Yes, I would; I would call elementary housewifery for the lower classes and a higher sort of housewifery for the higher classes.

15790. As regards the present alternative scheme for sixth class girls, do you think that two hours a day for needlework is too much?—Yes, it is quite unnecessary.

15791. Would you substitute for one of those hours some other industrial subject?—Certainly.

15792. Do you hear complaints as to the absence of needlework teaching in schools where there are a small number of girls, not enough to have a workmistress?—I do; I know a case where parents took their children away and sent them to a neighbouring school.

15793. What would you suggest to remedy that state of affairs?—I feel so strongly about it that I would prevent girls attending a mixed school unless there was a workmistress, and I would give a workmistress if there were twelve or fifteen girls.

15794. Now twenty is necessary?—Yes.

15795. Would it be easy to get workmistresses in sufficient number to supply these schools?—I should think so.

15796. If there were not enough girls to have a separate girls' school, would you exclude them from school altogether?—From that school, because if you don't teach a girl needlework when she is young the hand has not been trained, and she never can be as good as those trained in early youth, so much so that a mistress said to me she found it very hard having these untrained girls coming to her.

15797. Supposing these were only ten girls in a village and twenty boys, and the two made up sufficient numbers for a school of thirty, but yet there were not enough girls to justify the appointment of a workmistress would you exclude these girls from literary instruction altogether?—You might get over the difficulty by saying that a mistress should be appointed who could attend to two schools; the mistress, for instance, of one school might go over and hold classes for these ten.

15798. Would that be advisable in schools two or

three miles apart?—It would be better than expecting these young children to go long walks.

15799. Could not their mothers teach them some needlework at home?—They hardly ever do, and it would not be taught in the same way.

15800. CHAIRMAN.—Do you find that the mothers have been taught themselves, when they were school-girls, enough to teach their children?—They might, very probably.

15801. Mr. REDISBROOK.—Do you think that the arithmetic now taught to the girls in the higher classes is suitable; have you studied the details of the programme?—No, the mistresses have told me that some parts are not useful; on the other hand I know that single book-keeping would be useful.

15802. But you would not exclude arithmetic from the course for girls in the sixth class?—Oh, no; certainly not.

15803. In some schools it is believed to be excluded in the industrial scheme?—Yes. About making the industrial scheme acceptable to parents, a great deal depends upon convincing them that the literary programme will not be interfered with; they are justly afraid that their children will turn out dunces, and we don't want them to think that, and there is no reason why they should with improved methods.

15804. Rev. Dr. WILSON.—Did the girls in these cookery schools show much proficiency during the course of instruction?—They improved to a certain amount—some more and some less—but they were certainly interested in it.

15805. As far as you have got information from parents, have those lessons improved the cookery in their own homes?—They have told me sometimes—the mothers have—that they were cooking things, but the course was very short, only six weeks, and only one course; I am very anxious to start it again.

15806. Mr. STRETCHER.—How many times a week?—Twice a week. In Farnes there was a course of twelve cookery and house-cleaning lessons, one demonstration and one practice per week, and twelve laundry lessons. Fourteen girls entered. Twelve of these girls had attended house-cleaning class at my house in 1895, nearly all also in 1894, some also in 1893. Two girls out of these fourteen took a second cookery and cleaning set of eight lessons. Two girls took a second course of ten laundry lessons. Three girls in the fourth class took a set of twelve cookery and four took twelve laundry lessons, and two of them took a second course shorter in both subjects. In Shanagolden school, a mixed class of girls of fourth class, two stages of fifth and sixth class, twenty-two in all, took ten cookery lessons, two a week, one demonstration, and one practice, and eight laundry lessons, two a week.

15807. Mr. MOLLOY.—I think, Miss Spring Rice, that your experience about primary schools is not confined to those in your own immediate neighbourhood?—No.

15808. You are also Honorary Secretary of the Limerick branch connected with the Irish Industries Association?—Yes.

15809. How many girls' schools come under the purview of that Association?—We have now taken up seventy-eight schools and we have thirty-seven lady visitors.

15810. Then the evidence that you are favouring us with to-day may be said to be based on the experience of a very large number of schools and not at all confined to the two small schools in your own neighbourhood?—No, as regards the needlework.

15811. And I presume also, largely, as regards cookery?—No, I only know of one other school where cookery was taken up; it is a school where I have assumed in needlework when they have had the cookery.

15812. With regard to the alternative scheme, that is alternative in the sense of literary and industrial, you think the time required, two hours, would be too much?—Yes.

15813. And that a portion of that time might

be devoted to housewifery and any other industrial work?—Certainly.

15814. And, if I mistake not, your view also is that the class of needlework taught should be of a comparatively humble and useful kind, not at all solutions?—No.

15815. And should include the repairing of garments?—By all means, most important.

15816. In addition to visiting these schools, do you encourage the teachers in any way by prizes?—Yes; our lady visitors are given money sometimes by the Association, and they also supply prizes out of their own pockets, and that has had a very beneficial and stimulative effect upon the scholars.

15817. Do the girls of the National schools participate in any of these prizes?—It is prizes to the scholars not to the teacher.

15818. The teachers, beyond the honour and glory, and pleasing the Ladies' Committee, I presume don't get any formal certificate?—No, so far we have not done that.

15819. And how do you find that prize system amongst the pupils to work?—Very well; they tell us it stimulates attendance, as well as stimulating the improvement of the needlework itself.

15820. As a matter of fact when you constituted that Committee did you find the needlework in a very backward state?—In many places.

15821. The Committee has been in existence three or four years?—Just three years.

15822. And the present condition of needlework?—Is improved and improving slowly, but of course the subject has not been properly worked up with the teachers; they are often behind-hand themselves in that subject, and therefore they cannot bring their pupils on, but I find a laudable desire to improve them, and I should say that on our visits we have been welcomed and they have responded to our efforts.

15823. Have you and the Ladies' Committee formed any plan by which teachers trained, say, many years ago, when needlework was not so very essential under the National Board as it is now, could be brought up to the requirements of the Board?—Yes, we are very anxious that the Board should supply the means of their attending classes. Several teachers have said to me—"Oh, if there were such classes we should be so glad to improve ourselves," in dressmaking for instance.

15824. Then I presume you would be in favour of classes assembling, say, here in Limerick and at certain centres?—Yes, at certain centres.

15825. And those classes to be conducted by highly qualified persons?—It would be most beneficial and would tell on the whole neighbourhood, not only on the teachers themselves, but would raise the position of needlework, and these industrial subjects altogether.

15826. With regard to the subject of cookery, in which you brought the special teacher to your school, was the subject carried on, when that teacher left, by the ordinary teacher of the school?—No, she has as much as she can do, especially as she has the infant programme.

15827. Then you contemplate the necessity of the specialist coming again?—Decidedly so. Before I started these cookery and laundry classes I had also house-cleaning classes, pins and sample, in my own house on and off for three years, and they were very well attended, so that it shows the girls will come even without any other incentive.

15828. Have you any specific suggestion to offer with regard to the way in which needlework is taught in these primary schools at present?—We ought to begin with the children younger, and we ought to copy what they have taken up in England, a system of teaching them by drill, which has a wonderful effect no doubt, the English children seem to me to be distinctly ahead of our children, because they are better trained from the beginning, and they are trained in a shorter time; they give two and a half hours a week to actual needlework, whereas we

give five, and I have seen the English results, and I consider they are superior to ours, except the convents; some of our convent classes are as good as the English ones, because they have a superior method and a greater number of teachers.

15829. CHAIRMAN.—Have they shorter time?—No; they have as much time as they like, I think, in the convent schools.

15830. Mr. MOLLOY.—We are not very experienced in the question of needlework; perhaps you would favour us with an account of it?—It is writing down the exact motions that a person has to go through in the use of the needle, it is given out to the children, and, like soldiers, at a given moment, they all put on a thumb, at a given moment they all take up the needle, and at a given moment push the needle.

15831. You are pretty confident that good results come from the constitution of the Ladies' Committee?—Decidedly so, I think the teachers all like it, and there are many openings for the lady to make herself useful. And the managers like it; we have always asked the approval of the manager before going to the school, that is essential of course, because he is responsible for the whole thing.

15832. The house cleaning that you referred to might come in, I think, as portion of the excess time now devoted to the alternative scheme?—Yes.

15833. And to reduce our ambitious scale of needlework requirements under it?—Yes; but I think it could also be taken out of the programme as it stands, without the industrial programme.

15834. Without interfering with that?—Without interfering with that.

15835. Such as a reduction in grammar that you referred to?—A reduction in grammar.

15836. Would you be in favour of extending the school hours?—Half an hour, you might, or even an hour on special days. The children attending my classes thought it so hardship to attend later on those days.

15837. Professor FITZGERALD.—Did they come on Saturdays?—I think Saturdays ought to be reserved for teaching the teachers if possible, or holding classes for the older girls, because in the rural districts you cannot have evening classes; they cannot go wandering about at night, but you could hold classes on Saturday for older girls and grown women if necessary.

15838. Mr. MOLLOY.—At what time of the day did your special teacher in cookery give lectures?—They came half an hour earlier, I think, and stayed as late as was necessary to finish the work.

15839. Mr. HANNAH.—We found that in England they had divided the school day in many of the schools into two portions, one up to twelve o'clock, when the children get an interval of two hours, so that they can go home to their parents for dinner, and they resume then again at two o'clock and remain until four; do you think that would be an improvement in Ireland?—I should hardly think so, but I have not talked to the managers about it; it is a new idea to me.

15840. I think you said with regard to laundry work that if the State provided the means for teaching this laundry work the facilities might be reasonably expected to provide the materials?—To be washed, certainly.

15841. I suppose there would be very little difficulty in an ordinary National school in providing a sufficiency of soiled linen for the purpose?—No.

15842. Mr. FITZGERALD.—These cookery classes you refer to were held in the holidays?—One set were in the holidays and the other during the school term.

15843. And were attended by the children that actually came to the school?—Yes.

15844. About what age would those children be?—Some eleven—from eleven to fourteen.

15845. Bearing instruction in cookery?—Yes, and in laundry.

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Miss Spring
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15845. Were those classes attended by older girls who had left school?—I had a separate cookery course for the older girls who had left school.

15847. Not one of those two you referred to?—No, a separate one.

15848. And those classes you referred to were not attended by all except those children from eleven to thirteen?—Yes, or I think I had a few up to fifteen.

15849. But still attending school?—Yes.

15850. The class lasted about six weeks?—Yes.

15851. Did you find that they had made appreciable progress in that time?—They did.

15852. And it would be better to have the course renewed for the same girls another year?—Certainly.

15853. Perhaps two years?—Certainly; but if it was spread over the whole year you would get the same amount of instruction as in two years, because this was all crammed into such a short space of time.

15854. Your idea is that instead of having the course condensed into six weeks you would have the same number of lessons, or rather more, spread over the whole year?—Yes.

15855. But to be given by a special teacher?—Yes, unless the resident teacher would qualify herself for it.

15856. But you would expect a better knowledge of cookery from the special teacher?—Much better.

15857. CHAIRMAN.—Would you call the special teacher a cook, as far as qualifications go?—Oh, yes, the one I had decidedly.

15858. You could hardly expect a teacher to become as highly qualified as a regular cook?—Yes.

15859. PROFESSOR FRISZMAN.—Which was she, a cook that had been trained to teach or a teacher who had been trained to cook?—She was a teacher who had been trained to cook; she had gone through the Newcastle-on-Tyne training college.

15860. But her first idea was as a teacher?—Yes.

15861. Mr. SEYMOUR.—Was she a teacher of other subjects as well?—Yes.

15862. Suppose you had a special teacher of this kind, you would require to combine two or three classes in order to find employment for her?—Yes.

15863. That would be your idea?—Yes.

15864. You would utilize such an agency as the Ladies' Association that you speak of to combine classes for instruction in cookery?—Yes; I think the managers would be glad of an *ad hoc* device.

15865. Is that instruction not more profitably given to girls of fourteen or fifteen than to girls of eleven or twelve?—I think they would require an advanced teaching, but I think you should lay the foundation when they are young.

15866. But you don't think the early beginning of cookery or laundry work so urgent as the early beginning of needlework?—Not so early, but I call it as urgent at ten or eleven as it is urgent to begin needlework at five.

15867. You said they must begin needlework early, otherwise they lose a certain power of hand and cannot be taught to do it so skillfully later?—Yes.

15868. Do you think the same argument applies to cookery and laundry work?—It is more educational. I think it has more effect upon their habits and tone of mind than skill of hand.

15869. There would not be the same difficulty in training the pupils in cookery and laundry, as far as mere manual skill goes, as there would be in needlework?—Yes; but you could not get them to come in the same way. I noticed that the girls I had in my home in the cleaning class were those most anxious to come to the cookery and laundry that I got up a year afterwards.

15870. Don't you think it may be better for you, if you had these special classes of cookery and laundry work instituted by the Ladies' Association, to discontinue them entirely from the elementary schools and throw them open to all girls who wished to attend?—Then we should not get them I am afraid; many of those

who would benefit by it most, and require it most, would not come, because there is not that feeling in the country of the desirability; it is really a few of the better sort that desire it at present.

15871. Don't you think, in course of time, the benefit that these better girls receive from this instruction would affect opinion about them in the district and more would come?—It would take a very long time, because we have not good traditions in this country such as they have in other countries.

15872. But this would be a means of forming good traditions?—Yes, but then you would have to work a whole generation, and by catching hold of those little girls of ten or eleven we could influence a dozen generations.

15873. Supposing it was possible to have these classes entirely dissociated from the literary school, and made available for girls of the district generally after they left school, one could confine the literary school to fewer subjects with better instruction?—Yes.

15874. Is there not a danger at present of weakening instruction in the school by spreading it over too many subjects?—I should not say so, because I think the new methods of teaching make it so much easier that we should be able to do the literary instruction full justice in the same time.

15875. Would it not be better to begin with the new methods and see how they affect the school work before we take any steps?—I am very strong about starting manual training, make it very simple, but start it now and catch girls when they are young, because I have noticed everywhere that the little girls take a pride in it; they think it shows they are womanly, and the big girls don't take a pride in it unless they are pushed into it.

15876. Then, in your view, it is quite essential that these classes should be for the children who are receiving elementary literary instruction in the schools?—Yes.

15877. Then, about the needlework; that of course must be taken early in order that their hand may be accustomed to the proper operations?—Yes.

15878. I think you advocate beginning by needle-drill as they do in England. At what age would you propose to introduce needle-drill?—I think as soon as little girls begin to hold the needle, I suppose four or five, in the first class.

15879. Why I ask the question is, that I have had it frequently stated to me by lady teachers, who are teaching needlework in England and Scotland, where this needle-drill for children of five is the rule, that they think it bad for the children, because they are forced to do things at an early age that their hands are not really capable of doing, and thus early needle-drill induces to habits which are difficult to eradicate afterwards, and they advocate beginning at seven?—I have not heard that expressed, but I have seen very good results in London at the needle-drill, and on the other hand over here I have seen the children holding the needle all wrong, and I have heard teachers say it is exceedingly difficult beginning with them—they waste a good deal of time.

15880. The first thing is to get systematic instruction in a subject, and we may consider afterwards the proper stage to begin?—Yes.

15881. You think time might be gained for these industrial subjects you mention by leaving out or modifying certain of the school subjects?—Yes.

15882. Such as geography. You would not leave geography out entirely?—No.

15883. Your objection was rather to the method of teaching it?—Yes.

15884. The method of teaching it might be improved?—It might.

15885. And in that case it might fairly occupy the time it does at present?—Yes.

15886. So that not much time would be gained from that?—No.

15887. You think something might be gained from

grammar?—A great deal. I have heard very intelligent teachers say they thought the grammar might be left out almost entirely.

15888. You don't think the same argument might be applied to grammar as to geography, that the objection is not to the subject but to the manner of teaching it?—When they have begun it quite old, and have made up their minds that they are going to give more time to their education, it may have an educational effect then.

15889. That may be an argument for postponing the subject rather than omitting it?—Just so.

15890. Does the Ladies' Association conduct classes in needlework or laundry outside the schools?—No.

15891. It confines itself to visiting schools and giving special prizes for success in needlework?—Yes.

15892. Professor Fyfe, Mr. Evans.—Do you think that it would be possible, by these itinerant instructors going round and holding classes for the teachers, for them at the same time to see the teachers teach in the school. There is a great advantage if you can avoid supplanting the teacher?—A great advantage.

15893. What I thought was, perhaps, if teachers were to begin teaching in the schools almost simultaneously with the time that they were learning themselves, say a couple of weeks later, that then the person who was teaching there in the class on Saturdays night, during the week, go round the neighbouring schools, see how the teachers were getting on, provide what they were themselves being taught, and give their advice and assistance in their teaching, would not that be better than that the itinerant teachers should teach the classes themselves?—I think I read in some of the evidence that they are not allowed to teach until they study for a long time—for instance, two years, was it not?

15894. We are not going into what is at present existing, but do you think it would be possible for a teacher to teach the subjects she had been just learning?—No.

15895. You think they would have to go through the whole course before they began teaching?—Yes, they all say the best teachers are those who have given most time to training.

15896. It is not an ideal course I am proposing to adopt, but it is one that would be open to very serious objection; it is objectionable to supplant the teacher in the school, and the question is, would it be more objectionable to supplant the teacher or to set an inadequately trained teacher to teach a class with the assistance and advice of the person who was instructing her?—Yes; it is an idea, certainly. It all depends upon how you work it out. For instance, if a teacher was half trained, then she might begin to try her hand with somebody at her back to correct her.

15897. You found little difficulty in selling what was cooked?—No, no difficulty.

15898. I find in New York they provide all the expenses—the whole expense of the cookery classes are provided by the city of New York, and they don't sell anything afterwards?—That is a very bad lesson in economy.

15899. You found, as a matter of fact, that there was not any serious difficulty in getting children to bring dirty clothes to be washed?—I cannot remember about that; the teacher managed all that, and I think she very often supplied the things herself, so that out of my house something was supplied.

15900. For at some places they certainly have found a difficulty in getting children to bring dirty clothes, and at the same time in other places they don't find that difficulty?—A kitchen-cloth or anything would do to teach the principle, and anybody would give a kitchen-cloth to be washed.

15901. In some places they thought it most desirable that the children should bring their own clothes?—I don't remember about that, but I rather think the teacher took something out of my house.

15902. In mending, similarly?—In the mending we have made a little advance. I think we are on the right road. We are getting the children to bring clothes to mend. The teachers have been very good about it. Several of the best teachers said they saw the only thing was to set the example themselves, and brought some things of their own to be mended to show they were not ashamed, and they thought the children would follow suit.

15903. Do you see any serious reason why a master should not teach needlework?—No; I don't think it would be done.

15904. It is a mere prejudice?—Yes, but it is a very rampant strong rooted prejudice.

15905. You mentioned that the industrial scheme has been successful in places where it has been fairly tried. In what respects do you mean successful?—has it made the children care more for doing the work?—Yes, and they are kinder in their dress I should say.

15906. It has produced an effect in the locality?—I can only judge by the general look of the school, and where the industrial programme was going on successfully you noticed a nicely-dressed turn-out.

15907. Do you know the history of needlework in general in schools—do you know it was originally started in separate schools, and ultimately drafted into the primary schools, because it was found unsuccessful in separate schools?—Oh, was it?

15908. Rev. Dr. Evans.—You are in favour of itinerant teachers?—On the whole.

15909. How would you propose to construct classes for them—how would you group classes so as to form a centre?—I have been looking around in our county, and it seems to me that we have schools within three and a half miles of each other, and it is not too much to expect a teacher to go that distance.

15910. About how many pupils would come that distance—how large would the classes be?—In some of the very big schools she would have to give two days, but in most of the schools that I come across she would have one set of forty girls for a demonstration, and then would divide these up into two or three practice lessons, and get those in the rest of the day; she would, therefore, give one whole day to the school.

15911. You would have these classes conducted on Saturday?—Oh, no; I would take them all through the week—Monday, Tuesday, Wednesday, Thursday, and Friday, and reserve Saturday for lessons for those who were not attending the school.

15912. Could you form an opinion as to how many of these would be required for all Ireland?—That is a mere question of reckoning up; it will come to a great number, I know by the county Limerick alone.

15913. How much would you propose that each instructor should be paid?—Whatever you can get her for. In England, I hear, they are getting 260 a year. I suppose they would not require that here.

15914. But it is hardly likely that a lady capable of instructing teachers could be obtained for less, and where would that money come from to pay instructors all over Ireland?—Well, I don't know; it would do more good to the country than almost anything, therefore I should have thought the Government ought to have done it.

15915. Very possibly. Do you think we could get any local aid at all?—My girls who come brought it for the two courses, that is the only local help I got.

15916. Some fees might be obtained?—I think you might raise something, but then we could not make it compulsory, and if we don't make it compulsory I am afraid it would fall through.

15917. I should like to hear from a lady what is the distinction between housewifery and domestic economy?—It seems to me, in general use, domestic economy is taken to mean the book-keeping, and housewifery is taken to mean what they actually do with their hands. One is, extremely useful, and the other I value at almost nothing.

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15918. CHAIRMAN.—Which do you value at almost nothing?—The domestic economy taught from a book.

15919. When we were in England we found what was called domestic economy was not exactly what is learned in a book, because we saw a demonstration—it was more economy in the use of materials in cookery, and also dealing with such questions as the effect of heat, and the boiling of water. And I remember seeing a class of teachers in Liverpool being lectured by a young lady upon the subject of digestion!—That might come in when they were older.

15920. Rev. Dr. EVANS.—Do you think that either subject could be taught in a National school properly—domestic economy or housewifery?—The scientific aspect of domestic economy?

15921. Could it be taught in a National school at all?—A few remarks could be made as she goes along, but I would not go into the subject in detail, she should point out that you should use boiling water for some things, and what it does, but I would not go into it deeply, because the children could not understand it when we began them so early; I would take them to that when they were bigger.

15922. Mr. MORLEY.—With regard to the number of persons that would assemble for a class on Saturdays you would not, I presume, confine that to teachers, you would also, perhaps, include the senior

monitors who would, in a short time, become teachers?—Yes.

15923. And in that way the class would become a very large class?—It would, and young women in the country, many of them, would be very glad of it.

15924. Professor FITZGERALD.—At present there are five hours a week given to needlework; do I understand that you think the three hours given to it in England is quite sufficient?—By the results I have seen I should say so.

15925. That they could learn in three hours, if they were well taught, as much as they do at present with our imperfect teaching in five hours?—I should be inclined to keep on the five, because they can get through more work.

15926. Do you not think that some of the hours that are at present devoted to needlework might very well be devoted to housewifery?—Well, if necessary, if housewifery can't be got in other ways; but I should say it was useful to keep the five hours, because they are making clothes for themselves if properly looked after.

Professor FITZGERALD.—I noticed that in the schools in New York they had only one hour a week needlework, and the School Board of New York was insistent on its being one and a half hours; the lady superintendent complained bitterly; she said she got quite good work out of them for the hour a week, and did not know what she should do for the hour and a half.

Mr. G. BAYMAN, LL.D., District Inspector of National Schools, examined.

15927. CHAIRMAN.—You are the District Inspector of National Schools in Liverpool?—Yes, my lord.

15928. Do you think that there is a necessity for an assistant teacher in all schools, which have an average attendance of between fifty and seventy?—Certainly, my lord, I do. Under the most favourable circumstances at present a teacher conducting a school with an average attendance of between fifty and seventy can hardly bring that school into a state of high efficiency with the number of subjects with which he has to contend. He has a number of infants of different ages, between three and four, under six, and above six—ranging between six and eight we will say. In addition to that he has at least seven other classes to teach, each with a different programme, except, perhaps, we may say, first year sixth, and second year sixth, which have, in some subjects, the same specified programme. I think that under those circumstances it is extremely difficult for a teacher to produce satisfactory results, especially when you consider that at certain seasons of the year, in the spring time, when the planting is going on, and in the autumn, in the reaping season, the schools are sparsely attended. Also the teachers have to contend with epidemics, which come at various times. And then if we consider that, under the recent improved regulations in reading, much more time must be given now to the subject, and when you consider the numerous other subjects in the programme, writing, arithmetic, spelling, grammar, geography, theoretical agriculture, and then think of the school day as it stands, I cannot see really how we can expect that a teacher can produce good results. In fact, under our present system when it is coming near the results examination, the pupils must be kept much longer than the hours that are laid down in the time table.

15929. How are the hours, as compared with England?—Nominally the official school day is four hours, but in practice the National school day amounts to either five and a half or six hours, or if extra subjects are taken it may be longer; for example, the school ordinarily commences at 10 o'clock in the morning, it usually ends at 3 o'clock. Religious instruction may be given at an intermediate hour, or it may be given after hours, but then in addition we have to consider that in many schools there are

monitors, and these monitors must get three-quarters of an hour's instruction, before or after school hours, and that if extra subjects are taught outside school hours they must be added to the usual time, so that practically speaking our school day consists of five or five and a half or six hours.

15930. That is the school day as regards the teacher, but not as regards all the children?—Not as regards all the children.

15931. The additional time imposed on the teacher is imposed on him, or her, by the monitors having to be taught?—The majority of teachers are not content with the four hours prescribed by the rules, they find they cannot teach the subjects in that time; sometimes they put on their time-table just the four hours prescribed by the Board, that gives them a free hand to teach afterwards, if they wish, subjects in which the pupils are backward, or extra subjects. I should also have said that the programme begins to expand when the third class is reached.

15932. Mr. HENRICHS.—Perhaps you would say in general terms what your criticism is on the programme, without going into particulars. You criticise the programme as being too heavy in the higher classes?—Yes.

15933. You think that it ought to be curtailed?—I would say so.

15934. By the omission of a subject, or in what way?—I would suggest that it should be curtailed in this way—that we might omit syntactical parsing in the higher classes, also that we need not give instruction in the present form in geography, but more in the form of object lessons, or an extension, perhaps, of kindergarten.

15935. Would there be any saving of time?—You would save time in the higher classes if you omitted syntactical parsing, and chose the very classes in which you could bring in manual instruction.

15936. Would you omit grammar?—I would be inclined to keep grammar in the third and fourth classes.

15937. Mr. STRUTHERS.—You propose rather to increase the staff, and to curtail the subjects?—Yes.

15938. CHAIRMAN.—If extra subjects are to be taken up, such as are contemplated by the appoint-

Mr. G.
BAYMAN,
LL.D.

ment of this Commission, it would be necessary to increase the staff?—Yes, and also omit certain subjects.

15939. Mr. BROWNE.—Portions of certain subjects?—Yes, parts of grammar and the whole of the geography programme as it is at present, or else cut it down extensively.

15940. CHAIRMAN.—Now, what have you to say about drawing?—I consider drawing a most important subject, and I consider that in all schools in which the teachers at present possess a certificate in drawing, the subject might be made compulsory.

15941. Would you go so far as to say that in the case of all future teachers, those who are being trained at present, you would compel them to take out a certificate?—Yes.

15942. Drawing a distinction between those who are already teachers, and upon whom it might be a hardship, having perhaps passed the time of life when their hand could be trained to draw?—There are teachers who would not be able to acquire it, but in all possible cases I would require a certificate.

15943. You would not consider a person qualified to be a teacher who could not teach some one subject in the programme, such as drawing?—I would consider it desirable he should.

15944. Would you think it a hardship to make a rule, that before a person should get a certificate at all, he should be able to teach all the subjects that are in the programme, supposing drawing was a compulsory subject in the programme?—In exceptional cases it might be a hardship, but it would be most desirable in the interests of education that it should be required. Then, relative to drawing, I would recommend that drawing be introduced into the second class, both in all ordinary National schools, and also in kindergarten schools. In the kindergarten schools at present they use a chequered paper for the purpose, I think that is rather a mistake, I would prefer them not to use that chequered paper, because afterwards when they are brought into other National schools and introduced to paper without these chequered lines, they seem to draw without any definite idea of the plan set before them; it seems to me rather to impede them. In place of the kindergarten drawing being a help to them, it seems to me it is not.

15945. Have you anything more about drawing?—I would suggest that an expert be stationed at certain centres—say, at Limerick, for example—and that he could go round to schools during the week, say four days of every week, and give instruction there in cases where, at present, there is not a properly qualified teacher in drawing; then on Saturdays he might visit certain centres in the district at which teachers would attend—a centre like Castleconnell or Cahercash—where you could get about nineteen schools in a certain distance from you, get the teachers of those places to come in to the centres and then the expert in drawing would be able to give them instruction. I have taken my own schools and ranged them round various centres, and I found round one village, perhaps, nineteen schools might be grouped, and round another village sixteen schools might be grouped. Then if the teacher visited these centres on a Sunday the teachers could be brought into these places. Others might be sent to the teachers asking them what centres would be most convenient to them to attend, that would obviate the difficulty of paying their expenses into Limerick, which would, of course, in six months or twenty lessons, amount to a considerable sum. Then, in drawing, I would also recommend that there should be a test for the teachers, the same as, at present, in vocal music; that is, a literary test by examination paper, and also a teaching test as to how they teach the subject in their schools. Then I would add the percentages which they obtained in both, and if a teacher obtained 80 per cent., I would consider him qualified to give instruction in the subject. I would begin with object-drawing from the very first. In the first class you might even intro-

duce the subject. The teacher might use in the first class rulers on paper; then, in the second class, I would have a little higher, more increased proficiency; then, in the third class, something like the patterns at present, perhaps easier; and in the fifth class I would introduce drawing according to scale, but from the very first I would be inclined to have object-drawing.

15946. You mean by object-drawing, drawing from an instant like that?—Not for an elementary class, but a cube or rectangle, something extremely simple.

15947. But from an actual object, not copying something from a paper?—Yes.

15948. Now we will come to sewing and dress-making?—I would take that in connection with the industrial programme we have at present, because to the subject of ordinary sewing I think we give at present ample time in our schools. But I would remodel the industrial programme in order to make it popular, and I think that could be done easily.

15949. How would you do it?—I should only require one hour's instruction in needlework in the day in place of the two hours that at present are compulsory. In the domestic economy I would prescribe for the first year, only half of the text-book; that would leave them plenty of time for other important subjects—for example, in place of the present extended course in arithmetic, I would have a practical course; I would have questions dealing with bills of parcels, with mental calculations, with addition of money, in place of the present problems we propose to our children.

15950. I don't quite see how that bears on sewing and dress-making, I am taking the heads as you gave them in your paper?—There should be a course of two years' instruction in sewing-machine and dress-making.

15951. Have you anything more to say about sewing?—It is very desirable that there should be a two years' course of instruction in sewing-machine and dress-making; at present we have only got our year's course of instruction, and consequently very, very few children indeed, considering the number that pass through our schools, are examined, because the subject can be taken up in the fifth class. When the children pass through that class or any class in which the subject is taught, the subject is completed instead of being taken up year after year, therefore I would propose that there should be a two or three years' course. For the first year's course there should be a simple programme like taking the needle out of the machine, putting it in again, threading the shuttle, winding the bobbin, arranging the work. For the second year's course I would also make something more difficult, for instance, knowing how to use the brazier and hemmer, &c. For the third year's course you might have such work as doing easy work and things of that kind; I have got some of the work here (producing specimens). I think it most desirable that such an important subject as that should get more than one year. Then in cookery I would also recommend that there should be a two or three years' course in place of, as at present, there being only one year's.

15952. In what schools is there cookery now?—It is principally in convent schools.

15953. If it were possible to do so, would you advocate making it universal in all schools?—Most certainly, I would. I think cookery forms an indispensable part in a girl's education, as important as needlework; therefore I would be very glad that cookery should be made universal throughout our girls' schools.

15954. Would the same remarks apply to domestic economy?—The domestic economy readers would be most useful for girls, the usual readers we have in the school are literary, bearing on literary subjects, but for girls I would like domestic economy readers, bearing on cookery and laundry work, and other most important subjects bearing on a girl's education.

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15955. You mean text-books on these subjects?—Yes.

15956. Are there any in existence now that are available?—We have a few, but they are not introduced until the sixth class, and then only in the industrial programme.

15957. Mr. Ramsay.—Do you mean a graduated series of readers, such as are used in English schools?—Yes. Then relative to agriculture, I consider that the present system of teaching agriculture to be practically of no use to the country; there is a large sum of money, I suppose about £12,000, paid to fees for this subject for a mere knowledge of the book work.

15958. CHAIRMAN.—We have had very different opinions on that subject; we have had some views expressed like yours, that the teaching is all a waste of time, and on the other hand we have had the view put before us that there are a great many children in Ireland who are the sons of farmers, that they have picked up a sort of practical knowledge of things without exactly understanding the why or wherefore, and that this book-learning gives them rather clearer ideas of what they have picked up in that way. Do you think there is any force in that view?—I think it does not at all pay for such a vast expenditure as £12,000. My idea, relative to agriculture, would be not to pay fees for it in that way. I would propose readers in agricultural subjects, bearing on elementary chemistry and botany, which lie at the root of agriculture. I would have these taught simply as readers, just the way that in a great number of our schools agriculture is taught. Look at the immense amount of useful work that could be done with £12,000—we could have forty or fifty experts throughout the country going about diffusing a most useful knowledge of agriculture.

15959. In what way would they diffuse it, would you have school plots?—Wherever it was available I would advocate having school plots and having practical work done.

15960. What sized plot would you consider should be sufficient?—The size should not be large, because I don't think we would be able to get it. If we had an acre it would be ample.

15961. Do you think half an acre would be enough?—It may not be enough, but it would be far better than none.

15962. Having got your half acre wherever you could, you would then advocate that a special efficient teacher should go about to teach agriculture?—At present we would have to do that, but what I would advocate is that in training teachers special attention should be given to each subject, because it would be extremely expensive to keep on such a work as that, having inefficient teachers going to and fro throughout the country year after year. So what I would do after a time is, I would like to change the course in the training colleges, in place of having it as it is at present, principally literary work; I would have the course in the training colleges limited to a kind of pedagogy, teaching how to give instruction in the various phases of school management, and also in practical agriculture.

15963. Would you go as far as to say that all Queen's Scholars trained at Marlborough street should get in part of their time at Glasnevin?—I would.

15964. And make it essential that they should do so?—Yes, my lord.

15965. What do you say about grants for kindergarten desks?—I would be extremely glad that grants were given for these; grants are given for school desks in the case of vested schools at present; I don't see why grants should not be given for kindergarten desks in vested schools.

15966. What do you say about monitors and pupil teachers?—At present the teacher is allowed by the rules to employ them for three hours in teaching; they also under the rules must get an hour's instruc-

tion in needlework; therefore, that is four hours of the school day put in. Then there is such a temptation for the monitors to be employed in some of the literary work, in which they must pass in their annual examination, so there is a danger of their not getting full time at needlework, because they may be employed in teaching for three hours.

15967. Employed in teaching the ordinary subjects of the schools?—Yes.

15968. I don't quite know how monitors and monitors are appointed?—They are selected by competition from the best pupils in the classes; they have to pass an examination, but my point is that there is a danger of their not getting the full hour for needlework, and as those are to be our future teachers, it is most important that they should be looked to.

15969. Are all persons who are candidates for the position of monitor those who are intended to become teachers afterwards?—Yes; that is one of the essentials.

15970. I think you did make some remarks on the alternative scheme, perhaps you would complete them if you have anything more to say?—I would recommend that the industrial programme be inserted in those respects, that I would have simply one hour for instruction in needlework in place of the two hours at present, that I would allow composition subjects to be given by the inspector from some book prescribed by the Board, dealing with geographical subjects, such as the geographical reader that are in the market, that I would have a certain time given to arithmetic, as it seems to be a very favourite subject in the country, and that the course of instruction I would have in arithmetic would be an extremely practical one and simple one, dealing with ordinary commercial transactions, bills of parcels, mental arithmetic, mental calculations, money talks, and questions of that nature, in place of questions true discount and allegation, and stocks and progression, and matters of that kind.

15971. Have you anything to say on the subject of physical exercises?—Yes, I would like calisthenic exercises to be taught in all female schools by teachers who had already learned these subjects in their training.

15972. To what extent are those exercises taught now?—Well, I have seen teachers coming from the training colleges, and they have simply put the children through motions with the hands.

15973. They don't carry those exercises so far in this country as I saw them do in Sweden, where little girls were taught to swing ly ropes hanging from the ceiling?—No.

15974. Mr. Ramsay.—Is there any school in your district where manual work is taught?—Is that in the sense of Sloyd work?

15975. Yes?—No.

15976. Is there not such a school at Castlemore?—There is a school at Abane, in which Miss Bourke gives instruction to male pupils in wood-carving, but that is after school hours.

15977. It is not Sloyd work?—No, it is wood-carving.

15978. You think that if a graduated system of woodwork were introduced it would be popular with the pupils, would they like to devote some hours of the week to this work?—I think it is extremely likely they would.

15979. Do you think the teachers would take to it?—That is a difficulty; there are only a minority of the teachers that would be able to give instruction in it at the present time, and only a minority of inspectors would be qualified to examine in it; therefore these things should be provided for.

15980. If facilities were given to the teachers to learn the systems of woodwork in operation in England do you think they would enter heartily into the scheme?—I think they would if they were not required to attend classes in Dublin, but

my great hope in this matter is in the training colleges, and the teachers of the future.

15981. You spoke of teaching cookery by peripatetic instructors on Saturday afternoons, do you think teaching of that kind could be given in wood-work?—Yes, for some time until we had our future generation of teachers trained.

15982. CHAIRMAN.—Would you adopt it as an expedient for teaching teachers in a locality like Limerick, or teaching both teachers and pupils?—Yes.

15983. Mr. RAMSDELL.—I did not quite understand what you said about dressmaking, is it not taught in the sixth class now?—It is, but not taught as an ordinary subject. When we say dressmaking, it is taught in connection with the sixth class to a certain extent.

15984. Girls may remain in the sixth class several years?—Yes.

15985. Does not that meet your objection that dressmaking is taught for one year only?—It was more the sewing-machine and dressmaking combined that I had in mind. Sewing-machine two inspections for girls, and dressmaking combined with it, that I would like to have an extra year in sewing-machine and dressmaking.

15986. Could they not learn the use of the sewing-machine in a year?—All we require is fifty lessons in the year, and I think it would be better to have it for more than one year.

15987. You laid great stress upon the necessity for lowering the average attendance for an assistant; I think you said fifty was the right number?—Sixty.

15988. In your report you recommend that the average attendance for an assistant be reduced to either sixty-five or sixty pupils?—Yes.

15989. Which figure would you consider the right one?—I would say sixty, but I would sooner have sixty-five than seventy.

15990. You are aware that there can be two monitors at present in schools of over fifty, as well as the teacher?—Yes, but there are certain circumstances which prevent that, though our Board is willing to consider all cases—a teacher being third class is one.

15991. And there may not be eligible pupils in the school?—Yes, and the teacher may be inefficient and could not get 600.

15992. Is it your opinion that cookery could be taught in every rural school?—Yes, certainly, I would have a very easy graduated course.

15993. And to pupils of what ages, what classes?—I should say pupils from the fifth, first class.

15994. You are aware that a fee is now given for cookery in the fourth class, as well as the fifth?—Yes.

15995. Would you prefer to have no fee in the fourth class?—No, I would not say it was incorrect to give it to pupils in the fourth class.

15996. You don't think them too young to learn?—I do not.

15997. What is the age of pupils in the fourth class?—It varies considerably, I would say between ten and eleven.

15998. It varies between town and country, perhaps?—It does.

15999. Then the present regulations meet your views?—That would only be in cases where our Board has made arrangements with the Society for the Employment of Women, but I would wish it to be done in all schools, even where there is not an expert.

16000. Your opinion is that in all schools there should be a two-year's course of cookery?—Two years, yes; if possible, more.

16001. Confined to the simplest kind of cookery?—Yes, the first year I would have making of bread, cooking of cabbage and other vegetables of that kind—simple dishes.

16002. How many lessons a week?—One or two.

16003. For the whole school year?—For part of the school year.

16004. Have you thought out the exact number of lessons that ought to constitute a course, because there

is a difference of opinion about that?—No, I have not given that special attention.

16005. At present the peripatetic teachers give twenty lessons?—Yes.

16006. I think it was given in evidence on Saturday that twenty lessons were not sufficient?—I would be inclined to have more than twenty lessons.

16007. Rev. Dr. WILSON.—Is there not a sufficient number of assistant teachers at present in your schools?—No, there are certain schools in my district in which I consider that the staff is insufficient to work the school efficiently, as I have mentioned in my last report.

16008. What would you specify as the most pressing need in the schools of your district?—The most pressing need I would consider, for the female schools, is cookery, one of the most pressing needs in all rural schools; then in town schools I would advocate that it would be very useful to have shorthand and type-writing, and things of that kind, if it could be done.

16009. Is drawing taught in all the schools?—No, it is not.

16010. Is it taught in a large proportion?—No, only in sixteen of the schools in my district, out of 131 in operation.

16011. Are sewing and dressmaking taught in many of them?—Sewing is compulsory in all our female schools, but there are three model schools in my district in which there is no workmistress, and I would like very much if something could be done to meet the want in those schools.

16012. Mr. RAMSDELL.—Do you agree with what Miss Spring Rice said, that the present average for a workmistress, twenty girls, ought to be reduced?—I would meet it in this way, I would consider it should be reduced, in all schools in which there was an average of ten we should give a grant for a workmistress, it need not be as large as the present grant, for £8 you would get it in the country.

16013. But as principle you agree with her that there should be a reduction of the average for workmistresses?—Certainly.

16014. Would you tell us how many schools there are in your district in which there ought to be a workmistress, but there is not?—Three.

16015. Mr. BRIDGES.—What size are they?—Small schools—the average would range between ten and thirteen girls.

16016. Professor FERGUSON.—And the school itself would have thirty or forty pupils?—The school itself would have thirty between males and females.

16017. Rev. Dr. WILSON.—No doubt as to agriculture, what you say about expert teachers is very reasonable, it is very important that we should have them and expend money on them, but until we get the money for them and get them, would it not be better to teach the elements of agriculture, such as the nature of soils and the nature of manures and chemistry, and various matters connected with agriculture?—Would you be allowed to divert the £12,000 to other purposes?

16018. I think it would be far more likely to be diverted into the great gulf of the Treasury?—If that be the case I certainly would prefer that instruction would be given to them in elementary chemistry, botany and agriculture, such as we have at present.

16019. Mr. MOLLAT.—With regard to that average of sixty for an assistant teacher, you are aware, I presume, there was a time when an average of sixty secured the services of an assistant?—Yes.

16020. And even of fifty in a mixed school?—Yes.

16021. Perhaps you are also aware that the National Board have advocated quite lately the propriety of returning to that state of things as regards the average of sixty?—I was not aware of that.

16022. Is there a school of art in Limerick?—There is.

16023. Would there be any facilities in that school of art for giving instruction on the part of National

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teachers?—I am quite sure that an arrangement could be made by which they could get instruction there on Saturdays for two hours, and I would like such a system very much and advocate it.

16024. What is the constitution of it, is it under a local committee?—Under a local committee.

16025. Mr. HARRINGTON.—The same thing would apply to elementary science, such as chemistry?—There are science classes here in connection with the Science and Art Department.

16026. Mr. MOLLER.—Is there a regular constituted committee for science classes in connection with the Science and Art Department?—Yes, I presume there is, I am not very well acquainted with the subject.

16027. Is there instruction given in the evening?—Yes.

16028. Then the National school teachers and monitors could attend such a class as that and qualify by examination, having received practical instruction in the subject?—Yes.

16029. You refer to drawing, that it ought to commence in second class, but I think you added you are not in favour of kindergarten drawing, and regarded that as a hindrance, now in what way?—The kindergarten drawing at present in the second class is on dissected paper, and then in the third class there are not dissected lines, I think it is therefore not a help to the child.

16030. Does not that observation extend very much to the ordinary writing, a junior pupil begins with lines and a more advanced pupil will be able to write without lines?—Well, it does to a certain extent, certainly, correspond with it, but I think there is a greater difference in the kindergarten.

16031. Professor FITZGERALD.—You think the child ought to be weaned off the lines in second class?—Yes.

16032. CHAIRMAN.—But you would let the child begin with lines in the kindergarten work?—Oh, certainly.

16033. Mr. MOLLER.—Have you many examples of kindergarten classes in your district?—None.

16034. They are chiefly in the city?—Yes.

16035. I presume there is one in connection with every one of the large convicts?—Yes.

16036. Have you any lay schools in which kindergarten is carried on?—Not any except the model school, but I would advocate the extension of kindergarten, allow it to be taught in all schools in which there is an assistant, even if there is not an organized infant department.

16037. Would you not also advocate the extension of the kindergarten beyond the second class, for it runs on through the higher classes—third and fourth?—We have it at present in the third class.

16038. Well, to a certain extent?—I would, I could wish it to be extended beyond it, and in that way you could have object lessons in elementary science subjects and geographical branches, for example, it would be a most useful thing to teach a fourth class with a globe before you, to teach them something about zoography, the shape and position of the earth, and so forth.

16039. Have you worked out any plan by which that can be carried out?—Not in detail.

16040. You are in favour of the three years' course for cookery?—Three years' course; in fact I would like cookery almost in every year in which a girl would be at school from fourth or fifth class up, if we could have it, it is such a practical subject.

16041. You would make it compulsory even in rural schools?—I would make it compulsory on all female teachers; therefore in the female training colleges I would make it a compulsory subject, with our future teachers, so be proficient in cookery.

16042. Professor FITZGERALD.—Do you think it would be an insult to the maids to require them to teach cookery?—It would not.

16043. CHAIRMAN.—It occurred to me just before

Professor Fitzgerald spoke, that considering a great many men go to Australia and America, it would be very useful that boys should be able to cook their own dinner?—Yes, but of course we look on cookery, like sewing, as an indispensable part of a woman's education, more her function, as it were.

16044. Mr. MOLLER.—Did you say that sewing-machine required a two years' course of instruction?—In my opinion it would, for example, work like I showed here.

16045. That is sewing-machine by itself, not in connection with dressmaking?—Oh, sewing-machine by itself.

16046. Would you give a two years' course to that subject?—There are so many things in the sewing-machine, you can teach them, besides the mere adjustment of it, I would like a second year's course, and think it useful; for example, by the time you teach a girl how to put a needle in and take it out, the tension of the machine, threading the shuttle and winding the bobbin, there is an immense amount you might teach afterwards, such as working the toe-cap for a boot and the working of a case, but for the mere adjustment one year would be ample.

16047. With regard to the average number required to qualify in a National school for the services of a workmistress, twenty, are you not aware that the twenty includes a large number of mere infant pupils?—Quite so.

16048. And they do not receive instruction in the needlework, therefore, practically it is limited to fifteen or even ten?—But then you may have occasional schools, in which the number of infants is rather limited, and the number of children in the higher classes is considerably large.

16049. Would you leave the infants out of consideration and then say there should be an average of ten?—I think that would be a very good plan indeed.

16050. You advocate domestic economy readers, and also that the elements of science should appear in the reading books?—Yes.

16051. I don't know whether you ever met with the National School series, in which elements of science were conveyed in the fourth, fifth, and sixth books?—No, that must have been before my time as inspector.

16052. As a matter of fact there was such a series, the elements of chemistry and agriculture were taught in the ordinary "reader." With regard to the maids, I think you made a statement that they did not get sufficient instruction in plain needlework?—Well, it was not so much that, so that I thought their time for teaching ought to be reduced to two hours, at present they teach for three hours. I think that too much altogether for girls of their tender age, considering the amount of work they have to learn.

16053. Of course you are aware now that a mistress who completes her time and comes forward to be a teacher, must qualify specially in that subject?—Quite so, a most important improvement.

16054. Therefore, if there was any likelihood in the past, there is very little in the future of an unqualified teacher, who had been a mistress, taking charge of the subject?—Quite so. But pupil teachers at present get no time during the day, for work for themselves, they are employed teaching the whole day.

16055. Well, these pupil teachers only exist in the model schools?—Yes.

16056. You are the manager of the model school?—Yes.

16057. Why don't you arrange the time table to give them literary instruction during the ordinary school hours?—I understood it was the rule to expect them to teach all the day long.

16058. The alternative literary and industrial science you think ought to be limited to one hour?—The time for needlework.

16059. Under the head of composition, according to the Board's rule, there is no difficulty in introducing such subjects as zoography, letter-writing, elements

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of grammar, and so on?—But that was one of the points which made the industrial programme not favourably received. The programme on composition or letter writing for the sixth class was a letter on a single subject; the programme in the industrial scheme was of a much more ambitious nature. If you asked a child in the sixth class to write a letter on a simple subject, and asked the same child to write a letter describing—

16061. From Limerick to Calcutta?—Yes, there would be a considerable difference and a number of features.

16062.—That was for sixth class, and the girls were supposed to have previously gone through a pretty complete course, it would not then be too much to expect them, if they had acquaintance with geography, to describe the progress of the vessel from one place to another?—Practically, that was one of the deterrents in the alternative scheme.

16063. You referred to training colleges, have you personal experience of the inner life of any of the five under the National Board?—No, I have not.

16064. But you would recommend that all these subjects should be taught?—I would consider it most important that they should form an essential part of the training college course; and in place of the training college course being confined to a great extent to teachers getting a higher qualification, that when these teachers came up their time should be almost wholly occupied in pedagogic studies.

16065. During the last week we visited one of the training colleges, with a farm of fifty acres attached to it, and the students are brought out and taught how to carry on agricultural operations there; of course you are aware the teachers in Marlborough-street attend classes at Glasnevin, where there are 175 acres, and the Kildare-people have the same facility in connection with that farm, so really I think your idea is carried out?—Yes, but I would like it to be carried out still further. With the present literary programme in training colleges it seems very hard to give them sufficient time for both agricultural and alsoloyd work, which I would advocate too.

16066. Then you would propose to modify the Board's entrance curriculum for the training college, and the course through the training college?—Especially the course through the training college.

16067. Mr. STRUTT.—You have only three model schools in your district in which needlework is set taught?—Yes.

16068. It is not taught from want of a workmistress?—Yes.

16069. Do you think your district is favourably situated compared with others in Ireland in that respect?—I think it is.

16070. That is in other districts there would be a much larger number of schools in that condition?—Much larger.

16071. Do you think the number would be so great as to make it a matter of considerable cost to supply a workmistress to every school in Ireland?—I don't think it would involve a large expenditure.

16072. Supposing the other districts are much in the same position as yours, or only a little worse, then the total expenditure to supply a workmistress to every school in Ireland would not be much?—I don't think it would.

16073. Would that be a simple solution of the difficulty?—It would.

16074. Then you would send all male teachers to Glasnevin to go through a course there while they were at the training college?—Yes, or at some corresponding institution.

CHAIRMAN.—There is only one other place, the Munster Dairy Farm.

16075. Mr. STRUTT.—I understand your idea is that all teachers should receive a course in some agricultural institution?—Yes.

16076. For what time?—For such time as would

make them thoroughly qualified to teach the subject to their pupils.

16077. That would mean that these teachers should acquire an expert technical knowledge of agriculture?—Yes.

16078. But a great proportion of these teachers would be teaching afterwards in town schools, would they not?—I would not say a great proportion of them.

16079. Well you have several large towns in Ireland the teachers of whom would naturally come from training colleges?—I think a considerable number of them would be teaching in rural schools; there are very few large towns in Ireland. I think the number of teachers that would be required for these large town schools would be a very small percentage of the total number trained.

16080. What is the teacher going to do in a rural school after he has acquired this knowledge of agriculture; you would have him teach the subject practically?—I would.

16081. In that case a school farm would be necessary?—Or some small school garden; even if he had half an acre of ground he would be able to explain the principles.

16082. That would be a form of technical instruction would it not, rather outside the scope of school work, you are teaching the art of practical agriculture?—Well, yes, I should say you are.

16083. Would it not suit your purpose equally well to have these teachers thoroughly trained in the principles of science underlying agriculture, and to teach elementary science in the school instead of practical agriculture?—I think that it is most important for them to teach the elementary sciences that underlie agriculture, and I would prefer that to the present system; but of the three I would prefer, if it could be done, that there should be an expert to give technical instruction in agriculture.

16084. That the teacher in the rural school should be an expert, and give technical instruction in agriculture to boys of what age?—I should say to boys that would be eleven and over that.

16085. Do you think it would be any use giving technical instruction in agriculture to boys of eleven or twelve?—I think it would be most important to show them the proper way to put down potatoes and cabbages.

16086. Because we had it in evidence at the Munster Dairy School the other day that they don't think it desirable to have pupils enter their school under the age of sixteen?—That is expert evidence, but I would consider it an immense improvement if our teachers in teaching got a thorough instruction in elementary science.

16087. And that would be more in keeping with the ordinary work of an elementary school?—I think it would.

16088. And you would leave the technical instruction for more advanced institutions?—It may be better to do it.

16089. In that case your teacher would not require this course of practical training in agriculture in Glasnevin?—They would not.

16090. Would you confine the reading of the girls to these domestic economy readers?—I would not; I would make it optional with teachers to introduce them if they wished.

16091. Would you not make it compulsory that they should read something else as well?—I think it would be desirable that they should read another book, to relieve the monotony of it.

16092. I don't quite understand about the alternative scheme, if a girl takes the alternative scheme in the sixth class, is payment made more than once?—Payment is made twice.

16093. She may be promoted in exactly the same subjects next year?—Yes, but increased proficiency is required in that case.

16094. There is no mention of arithmetic in this

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alternative scheme?—Not in the present alternative scheme.

16095. Then may a girl of the sixth class prosecuted under the alternative scheme obtain payment for arithmetic?—No.

16096. No grant can be made on account of arithmetic if a girl takes the alternative scheme?—The fees are exactly the same as if she takes the ordinary scheme, the teacher may give instruction in arithmetic, if she has time, in the school in which the alternative scheme is adopted.

16097. In how many schools did you say you had the kindergarten department?—Nine.

16098. Don't you think a false impression is created in people's minds by the term kindergarten, they consider it a separate subject like drawing or reading or writing?—Yes.

16099. Would it not be simpler to call them "infant schools"?—Yes.

16100. And let it be understood that in these schools they receive the natural form of instruction suitable to infants?—I see no objection to that.

16101. That is to say that at that age the formal instruction in reading and writing would be combined with a considerable amount of play and also exercises in hand and eye training?—Yes.

16102. You referred in your report to agricultural instruction in Denmark; you say "the instruction there has raised Denmark from being at the end of the last century one of the poorest countries in Europe to be one of the richest." Are you aware that agriculture is not taught in any of the primary schools in Denmark?—No.

16103. Nor is drawing taught in any of the primary schools in Denmark, and that the agricultural instruction in Denmark is given exclusively in much more advanced institutions?—Are these principles underlying agriculture of which you spoke taught in the schools of Denmark?

Mr. STOUTENBERG.—Elementary science is taught in the town schools, but it is not in the general programme of the country.

16104. Professor FRYSGER.—You have had experience of kindergarten; do you think children that have been trained in kindergarten are less able to go on with their school work than those that have not been trained in kindergarten?—I would say they would be much better able to go on.

16105. Your experience has been that the children that are trained in kindergarten are better than the ones that are not?—I have been told by those who have been giving instruction that, as compared with other children who did not go through the kindergarten course, those who had gone through it were brighter.

16106. I would have thought so, but there was evidence in Dublin to the contrary, at which I was much surprised. Do you think if one in sixty was the proportion of teachers to children, that that would be a sufficient number of teachers. Our present proportion is one in seventy?—Two in seventy.

16107. Two in seventy, I mean?—Yes, two in sixty as what I would advocate.

16108. Do you think it would be possible to introduce other occupations besides woodwork in the third class as a continuation of kindergarten occupations. You have not mentioned it here, but in a great number of schools in England we found that after the kindergarten occupations children were taught paper-folding and cardboard work before they were able to do woodwork; do you think it would be well to introduce some continuation of kindergarten occupations in the third and fourth class?—I think it would.

16109. There is an industrial school in Limerick, I mean a technical school?—I don't know that there is any technical school in Limerick.

16110. Is there not a 16th rate in Limerick for a technical school?—There is; we have a library, but we have no technical training, so far as I know.

16111. Mr. MONTAGU.—Is there not a technical class carried on in the Athenaeum, Mr. Arnold Graves visited it?—Oh, yes, there is in woodwork and sheet-lead.

16112. Professor FRYSGER.—Because that would enable Limerick to act as a centre for teaching woodwork to neighbouring teachers?—I think it is wood-carving that is principally carried on there.

Most Rev. Dr. O'DWYER.—Wood-carving as an art is being taught in these classes.

16113. Professor FRYSGER.—You add that it would be desirable to make drawing compulsory?—Yes.

16114. Would you allow teachers to teach that had no certificates?—I would not; I would be rather inclined to train these teachers than to level down the others.

16115. Suppose a teacher were able to teach pupils sufficiently well to enable the pupils to pass, would not that be a good certificate for the teacher?—I am very much afraid unless he was able to get a certificate in drawing he could not produce satisfactory results.

16116. If he produced satisfactory results, would you allow him to teach?—I think if he were able to produce satisfactory results, he should be able to get a certificate in drawing.

16117. Would you compel him to go in for the certificate examination, because people who are past forty years of age don't like going in for examinations, but nevertheless they might be very well able to teach drawing?—I think I would be inclined to make the teachers get certificates.

16118. The Board do not require the teachers in any of the convent schools to be certificated?—No.

16119. Why should they apply any other rule to other schools?—Because there is always a lady among the numerous ones in the convent who has got special instruction in that particular subject, and who is selected by the head of the community to teach it.

16120. But there is no test of her qualification except by finding out she is able to teach?—The very fact of her being selected to teach the subject in that convent by the lady in charge, to my mind sufficiently proves that she is efficient to give instruction. The conductress would never select a lady to teach drawing in a convent school unless she had already given proof that she was competent.

16121. Then you think it would be desirable to compel teachers who are not as present certificated to pass some examination before they were allowed to teach drawing?—I do, but as I said before, I would have a double test, the test of the examination; there would be a certain percentage for that, and then a certain percentage for how they taught it in the school, combining the two.

16122. Who is going to inspect the teaching in the school, do you think the ordinary inspector, you and others?—Yes.

16123. I am in your report you advocate botany to be taught in connection with agriculture, and result fees to be paid for collections of plants, insects, and minerals, do you think that would be a possible thing to require in all rural schools, do you think it would be possible to get the teachers to do that?—I don't know that it would be possible in all cases, but where it was done I would certainly reward it.

16124. That is, you would encourage it, but not make it compulsory?—I would not make it compulsory.

16125. You would encourage the giving of object lessons rather than geography?—I would.

16126. These object lessons might be in the nature of elementary sciences?—Yes.

16127. Do you think that elementary science can be satisfactorily taught by merely readers without experimental illustrations?—No.

16128. You would insist upon experimental illustrations?—Yes.

16129. Rev. Dr. EVANS.—We will come down, Dr. Bauman, to manual instruction: what manual instruction is given in your district?—Kindergarten, drawing, needlework, sewing machine, some instrumental music, if we would count all this under manual instruction.

16130. What have you included under the head of manual instruction in your report?—I only include woodcarving.

16131. Tell us, please, then, a little about it. "Apart from kindergarten," you say, "the only manual training at present in my district is the woodcarving class in connection with the boys' school at Abens." What is done there?—Miss Bourke selects from the boys' school pupils who show some aptitude for woodcarving, and gives them instruction in a different building from the school, which belongs to Mr. Bourke, gives them instruction there twice a week; she disposes of the work done, and they get a certain proportion of the proceeds, she endeavours to stimulate and encourage them by that means.

16132. Do you examine that school?—I don't examine the woodcarving, but I examine in the National school; it is taught in a different building altogether and quite apart from the school work.

16133. Have you seen the work going on?—I have seen work going on, but the particular time I saw it there were not many engaged; it was in the evening, and when I saw it it was not exactly the time the class was being held, but there happened to be one or two working there.

16134. Have you seen the models that are in use there?—Yes, I have seen them; there would be a wardrobe or cabinet made by a cabinet maker, and these would be sent to Miss Bourke's school, and the panel would be carved on it and various little things of that nature.

16135. That is all the manual instruction that you refer to in your report and that you know to be done in your district?—Yes.

Mr. WILLIAM B. JONES, B.A., Head Master, Leamy's School, Limerick, examined.

16136. CHAIRMAN.—You are the Head Master of Leamy's School?—Yes, my lord.

16137. Will you tell us what Leamy's School is, and what class of education is given in it?—Just the ordinary class, as in all the National schools in the county; it is a primary school.

16138. You have given your attention to the subjects in the programme of the National schools, and you think, I believe, that some of them might be omitted without injury. Would you go through these subjects, which you think might be omitted or modified without injury?—I mention grammar in my abstract, I think that is next door to absolutely useless, the way we teach it. We are required to teach a very extensive course of grammar to the upper classes, and it has no educational value whatever, it does not enable the boys to speak more correctly, they cannot write it in composition, writing a simple letter they make the most frightful blunders, even although they can parse well.

16139. They do it without applying their minds?—Yes, and they are not capable, at the tender age at which they are taught it, of understanding the abstractions that are put before them in the shape of grammar. I would put out grammar and replace it by the correction of local vulgarisms, and put in letter writing and composition in its place and call it "English Composition."

16140. How would you judge writing?—By the penmanship, pure and simple.

16141. And also by the spelling?—I would include that in the composition.

16142. Coming to arithmetic, what do you say about that?—The arithmetic we teach at present is far too extensive in all the classes, from fourth class up. In the two sixth classes specially, they are taught a lot of rules that are almost absolutely useless to them; they might be more usefully employed in writing out bills carefully and neatly, totting up sums of money rapidly and correctly, and doing their accounts.

16143. Would you teach them proportion?—Certainly, I have mentioned some rules in my abstract.

16144. You have mentioned in your abstract, as useless, cube root, progression, compound interest and stocks, two discount in sixth class, circulating decimals in fifth class, and some of the weights and measures in fourth and fifth?—Yes, some of these are particularly absurd, it is quite common to see children drudging, converting yards into English ell and French ell, measures that have gone out centuries ago.

16145. What would you replace them with?—I would put in simple accounts from fourth class up and rapidly and correctly in doing addition of money.

16146. You say "failure in these latter subjects should not count as entire failure in arithmetic but could be met by reducing the fee"?—Exactly.

16147. Now geography?—The geography we teach is not the intellectual power it ought to be; there is too much required from the boys and we cannot devote sufficient time to the form of teaching. We have to teach half a day by day, and those are repeated for a whole twelve months until the boys absolutely after a time, cease to learn. For instance, we repeat the chief towns of Ireland from fourth class up, they cease to learn them after their being once put before them. The chief towns of China are mentioned to them, but whether the Chinese are black or white, Catholic or Protestant, or are ruled by an emperor or a king, they are totally ignorant.

16148. Do you teach them to understand maps?—So far as required by the programme.

16149. Do you think that is a good thing that they should be able to point out places on the map?—Of course, it is impossible for them to pass their examination unless they can do so.

16150. You would still continue that?—I would make it essential.

16151. You would give up learning lists of names by rote or memory, but still advocate that a child should be able to find places of sufficient importance on the map, whether in his own country or a foreign country?—Certainly. I have seen boys of the upper fifth class asked to name the areas of certain lakes in Ireland as part of their programme, and lengths of certain rivers, and those went towards a mark for a full or pass.

16152. And you are against teaching heights of mountains and lengths of rivers?—Certainly, except one or two of the principal.

16153. At present you teach the length of the Shannon?—Oh, yes.

16154. Do you teach where the Shannon rises?—Yes, my lord.

16155. Where does it rise?—The geography says it rises in the Cullough mountains.

16156. You put grammar on the list of optional subjects?—Yes.

16157. What would you put in its place?—I would give English composition in its place, and that English composition would include spelling, composition and letter writing, and the correction of local vulgarisms, but that would do away with spelling also as a separate subject, and I would find room for experimental science of a simple nature.

16158. You would introduce elementary science, preferably object lessons?—Yes, at least object lessons in the junior class.

Limerick.
G. J. G. 1892.
Mr. G.
Bauman,
B.A.

Mr. William
B. Jones, B.A.

Liverpool.
Oct. 4, 1900.
Mr William
R. Joyce, Esq.

16159. You think these object lessons should have special relation to the agricultural teaching in the country, and in the city other scientific subjects might be taken, of which local illustrations could easily be found?—Yes, my lord.

16160. You think they should be so selected as to develop the powers of observation of the children?—Precisely.

16161. And they should be illustrated by objects brought in by the children themselves?—Well, where possible.

16162. What length of course would you advocate; the course at present appears to be two years?—The sciences, such as mechanics and electricity, are at present divided into a two years' course, and are almost altogether ineffectual, because they are taken in so few schools; but I would divide them more minutely, so that it would be possible to teach them in the fourth class to the end, perhaps, of a six years' course.

16163. What have you to say about drawing?—I should say, first, that the methods of drawing at present have been very much decried before you. I think the drawing is rather better taught than has been already described to you. I have seen it said that a quarter of the time is spent in drawing, and three-quarters in rubbing out. I must say I have never met a school in my experience where such a thing came under my observation.

16164. That must have been stated in the early part of the evidence?—Drawing at present, of course, could be made much better, because we are altogether confined to freehand drawing, and nothing of reality or life is produced by any chance by the boys, except perhaps a teacher sees a boy is very good, and gives him a little time to draw a chair or hat or something about the school.

16165. You would have that drawn from the object itself?—Precisely, but though we may do that it may injure us, because there is no cognisance of that taken at the examination. What is taken into consideration is the actual freehand copy that a boy makes, and not his method.

16166. You think the programme should be present—how would you re-cast it?—I would begin with drawing in the junior classes; infants and little children delight to draw; you constantly see them drawing figures of objects on slates. I would begin with the classes on slates, and let them have object drawing with a ruler, squares or rectangles. I would continue that in the second class, replacing slates with paper. The third and fourth might remain much as at present, only I would have object drawing with straight lines. Fifth and sixth classes could be most improved by simplifying the present freehand drawing; some of the figures are so difficult that it would take a skilled artist to reproduce them—I mean when they are placed at a distance. It has its own utility, but it would be more useful to put a thing of life—a chair or a table—before a boy, and ask him to reproduce it.

16167. Have you anything to say about mensuration and drawing with a compass and ruler?—That would be useful, I suppose, geometrical drawing. We may take that, if we like, as an alternative course in the upper classes, but as a matter of fact we don't.

16168. We have seen it in one or two places?—I had perspective for a great many years in my school, but I dropped it last year because it meant the buying of a set of instruments by the boys, many of whom are poor, and I found they would not buy them. And again, teaching a thing of that kind requires boys to be in continuous attendance; if they drop a lesson they would lose the benefit of succeeding lessons, and I find it easier to teach the ordinary freehand and shading, in which there is no continuity required.

16169. You think recreation should be made a distinct subject from Euclid, and separately paid for?—Most decidedly.

16170. And you think the requirements in Euclid and mensuration should be curtailed for the first year?—Yes.

16171. And you also think in the second year the course is much too extensive?—Yes, my lord.

16172. And the same applies to the third year's algebra?—Yes.

16173. What do you say about kindergarten?—I should like to see kindergarten introduced into every school where there were two teachers, one of whom was qualified to teach it. I have been very anxious always to introduce it into my school, but I am not free to do so, because it would not be paid for, as I have not a separate organised infant department. As a matter of fact, I have attended lessons myself at the convent and model school, but I did not put them to any useful purpose, on account of this rule.

16174. You think that a higher fee should be allowed to cover the expense of materials?—Yes, my lord.

16175. Supposing new subjects such as manual training, meaning woodwork, in fifth class, were to be introduced, how would you do it?—I see no opportunity of putting it in at present in the ordinary curriculum, except on Saturday, when we are free; and it might be tried optionally on both teacher and pupil until the teachers are qualified, then the upper class boys might be asked to attend the classes, and might get instruction in the use of tools and the nature of the woods, but I would like to say that devoting the half of Saturday to it, I would like to see them engaged in some literary work.

16176. How long would you think the lesson should last? As practised in England it lasts two hours!—About that would be sufficient, and if you had some pleasant literary subjects going with it it might make it more attractive. I have mentioned Irish history as one which might be taken with it.

16177. Do you think the present programme in handicraft is suitable?—No, unsuitable.

16178. In what way is it unsuitable?—I am a handicraftsman myself, but if I were a teacher who had no skill beforehand I could not learn all those things mentioned in it in one year, and besides in many ways it is not a bit educational, for example, putting a leg on a chair or mending the hinge of a door. To put a leg on a chair is of value mechanically, but educationally its value is very small, it is merely mending a chair and no more, there is no talk over the meaning of your subject. I would prefer if they made a pyramid or cube, and you told them that such a thing was a pyramid or cube, and then referred to its sides, angles and shape generally; this would be a training of the hand and eye and mind.

16179. I see you have some observations upon the subject of the training course at Marlborough?—

—Yes, I think to qualify teachers for giving proper instruction in drawing,loyd and kindergarten, the entire training course should be devoted to systematic courses in these subjects and pedagogic studies in general. The training course is, at present, regarded solely as a means of getting promotion, not as a means of increasing the professional skill and knowledge of the teacher; consequently he comes back from the college with, as a rule, a higher class, but with no better knowledge or experience of the best pedagogic methods or of educational history. This, I consider, is a radical fault in our system. A teacher, who sees or reads of other systems, even though they be wrong, or which, though not wrong, reach the same goal by different methods, has learned much and gained a great deal in breadth of view. Keeping one system alone in view tends to narrowness and ignorance. I would, therefore, on no account, give promotion to a teacher while in training, but would have the whole course devoted to doing what could be done to increase and widen professional knowledge and skill. A teacher who possesses a certificate of having had such a course of training would possess a diploma of solid educational value.

16180. What is your experience of agricultural teaching?—Very little, I only taught it before I came to teach in the cities.

16181. Do you think that such teaching as you gave was of any practical utility?—Well, my lord, the Board issued a specification for a certain article—it was not any fault if the methods were bad—I gave them that article as well as the inspectors required; the methods undoubtedly are bad, but certainly the teachers are not responsible for it.

16182. We are not finding fault with the teachers, we want your opinion of the system?—I don't like the system, I think it is bad.

16183. You think some hand and eye training should be introduced if possible?—I do think that.

16184. And you think that by reducing the requirements in some one subject it might be possible to put in an additional lesson on some other subject?—On some other day it may be possible, it would be easy.

16185. You think that whatever is done should be optional?—In the matter of hand and eye training—yes.

16186. You also think that any changes should be made gradually?—That is in order to enable teachers who have not opportunities of learning it to gain time, and to avoid any conflict that might arise with them.

16187. You don't approve of the present payment by results?—I may say I do not, I think it cramps us.

16188. Mr. RAINBORN.—If the training course were devoted entirely to teaching a teacher methods of imparting instruction in handwriting, and drawing and things of that kind, how would he be helped to get higher classification?—I would have him just attend the district examination as at present, but, I do say, it would be advisable not to have the teachers go for that training course until they had reached a certain standard of classification, say, second class.

16189. Is it not a great help to the teachers in view of their promotion, that they should be instructed in the training colleges in the ordinary subjects of examination?—Yes, but surely it is better for the country's sake to have more skilled teachers than that they should gain promotion and have higher salaries.

16190. Have you thought of any other way than examination by which they might get promotion?—When they get a training course of the nature I speak of, they then should be eligible for promotion after having good service for a couple of years teaching in the school.

16191. You would substitute promotion by service for promotion by examination?—Yes.

16192. Did you say you would make grammar optional?—In there anything else you would make optional?—I could not think of anything else in the present programme I would make optional.

16193. If grammar were made optional would there not be time in the ordinary five days of the week for introducing some extra subject?—Yes, I have mentioned elementary science to replace it, and I would have it, not optional, but obligatory.

16194. Don't most teachers take up extra subjects?—Very many do.

16195. If they find time for those subjects could they not find time for manual work on the ordinary school days?—They could find time, but where would you find the teachers.

16196. I am assuming they are instructed themselves, I understood you to say that there was no time for giving this manual instruction except on Saturdays; now I ask you whether some of the time now given up to some extra subject might not be given to manual work?—That is not taken up in the ordinary school day course, it is taken up afterwards.

16197. But it is taken up by a number of pupils?—If the teacher found the manual work equally attractive, and I would say equally paying, he would take it up.

16198. Therefore if it was made worth his while he could take up manual work on the ordinary school day?—He could.

16199. The Saturday might be left for any instruction the teacher wished to receive from peripatetic teachers?—Yes.

16200. Rev. Dr. WINNOC.—I gather that your school is under the National Board?—Yes.

16201. Is there any endowment there—have you any advantage over an ordinary National school?—Not the slightest.

16202. Is it purely a boys' or girls' school, or a boys' and girls' school?—A boys' school.

16203. What are your numbers?—All the year round, about 440, on an average.

16204. I see you object to the mode in which grammar is taught, and arithmetic and geography, and to portions of the training college programme, and to agriculture, and you object to the result system, what remains that you approve of?—A very great deal, sir.

16205. You are rather a radical revolutionist?—It would need a radical revolutionist to raise the present teaching to something of life; it is as bad as it could be in many of its forms. I must say I have devoted all my extra time to thinking of educational things and reading reports from other countries, and travelling for the purpose of seeing things, and I think our system is very bad, and I put it all down to the result system. I think we are so cramped and confined we have no initiative of our own. We have to keep our eyes fixed on the one particular thing, the amount of papers we will get from the inspectors. Upon that depends our promotion, and the opinion which the manager and the people around us have of us, and it is not our fault if that is placed before our eyes as the one goal to be aimed at. The system does not exist in any other country at present.

16206. Mr. MONROE.—What experience have you had as a National school teacher; how long are you a principal teacher?—For thirteen and a-half years; I was teaching for two and a-half years in a college, and one and a-half years in a training college, and also in a country school.

16207. And you underwent a course of training in one of the training colleges?—In Marlboro'-street.

16208. What year?—From 1880 to 1882, portions of those years.

16209. And was it your experience that the great aim and object there on the part of the teachers in attendance was simply to obtain improved classification rather than to acquire improved methods of teaching?—Most certainly; they never gave a thought to improved methods of teaching except as required by the programme for improved classification.

16210. Had they not a specialist to give them instruction in improved methods of teaching?—Yes, but that specialist was handed down to the programme which was to enable them to pass their examination.

16211. Was there not a specialist there to show how to teach each subject?—In any time there was not.

16212. In the lecture halls did not the professor of methods—there has been a professor of methods for the last fifty years—give instruction in how to teach, say, grammar, and bring a number of pupils there to exemplify that practically?—No, sir, when I was there.

16213. Have you had any experience of kindergarten instruction in schools?—Not in my own schools, and none except in classes where I saw it in operation in the convent here in town and in the model school.

16214. Would you advocate the propriety of introducing it into your own school?—Most certainly.

16215. What is your difficulty?—That we would not be paid for it, we would lose heavily over it. I have ample room for it; I have over 200 children for it in the infant department, but it is not a "specially organised infant department."

Lancashire.

Oct 4, 1887.

Mr. WILKINSON,
B. Joyce, & Co.

Limerick

Oct. 4, 1897

Mr. Walker
St. Johns, N. A.

16216. What is your difficulty in creating a specially organized infant department?—The rules of the National Board.

16217. That you could not have an organized infant department in Leamy's school?—They specially specify that it is only paid for in places where there is an organized infant department.

16218. Professor FREDERICK—What is the difficulty about an organized infant department?—There should be a special head master appointed for the school.

16219. Mr. STRUTHERS—On a mistress?—But they are all boys we have.

16220. Mr. MOLLER.—There are instances of infant schools under masters?—I think it ought to be equally desirable that masters should learn the proper methods of teaching infants, as well as mistresses.

16221. Have you had any personal experience of manual instruction in wood?—Except in some of the technical schools in France, I did not see any classes of that nature in our elementary schools here.

16222. CHAIRMAN.—Not in the ordinary schools?—The last report of Mr. Fraser says it has been given up in the National schools in France.

16223. Mr. MOLLER.—By eliminating grammar, as you seem to indicate, from the school course, and modifying some other subjects, would you not find time for the introduction of such subjects as manual instruction in wood if the teacher was qualified to give instruction, and suitable means were provided?—I would be very willing to see it tried.

16224. What scientific subjects do you take up in that large school of Leamy's?—Not one word of science is spoken of from one end of the year to the other.

16225. What is to prevent you taking up scientific subjects?—I had large classes there for many years in connection with the Science and Art Department, but about four years ago a new rule came out, whereby they ceased to pay for second rate passes in the elementary stage, and that at one blow cut away all the science-teaching in Irish National schools. Last year the grant was only a little over £4,000, before the time I speak of, it was more than twice that.

16226. What mathematics do you teach in your school?—To the sixth class six books of Euclid and up to the binomial theorem in algebra.

16227. Do your sixth class pupils study the binomial theorem?—I would like to say that they study how to pass in it.

16228. You are in favour of memorization as a separate subject?—Yes, sir.

16229. You have seen of course the new curriculum for teachers published by the National Board?—Yes.

16230. You find in that memorization as a separate and distinct subject, and will be examined separately from geometry henceforward, that falls in with your view?—It does.

16231. CHAIRMAN.—Is there not some way by which the Science and Art Department pay for attendance?—There is, but for the Science and Art Department we should have the lessons after hours, then they would pay for attendance at the rate of 3d. per hour.

16232. Would that meet your difficulty as regards the taking away of fees for second class passes?—It would not, for this reason, that we are not at all in a position to compete with English schools in any conceivable way, the grant was taken away from our schools five or six years ago, while the science teaching was in its infancy; it is still in its infancy, and now we are not able to compete for these grants with the English schools.

16233. Mr. STRUTHERS.—How many boys have you beyond the sixth class?—I could not tell you. They are all beyond sixth, once they pass in it.

16234. How many are fourteen years of age?—Including members I would have an average of forty or a little more.

16235. That would be scarcely sufficient numbers to form an organized science school?—I think not; I rather think I could have classes in connection with

the Department still, and not be an organized science school.

16236. You can, but then you can only get payment for advanced stages?—I could get payment by time for passing as "good" in the elementary stage, but the passing would not pay as it did previously.

16237. Could you not take science as a subject under the National Board?—It would be dangerous, the syllabus is so delightfully vague, you might come a cropper on a subject very easily.

16238. But you could teach science on your own lines, and it might be found satisfactory by the inspector?—Yes, and it might not.

16239. You condemn the present system of instruction in schools here generally, would you give us some idea of what you advocate, you would have the ordinary elementary subjects, I presume?—Yes.

16240. Take such a subject as reading, you would not have them confined to reading books specified, but would test them in unseen readers?—It would be fair to confine them to reading books if they were such books as the boy would take up with interest, but they absolutely abhor the books they have at present.

16241. A proper test of the powers of the reading of a boy would be to read an unseen passage?—That would be a good test.

16242. You think many of the parts of arithmetic might be counted as not being of practical use?—Yes.

16243. For that you would substitute experience in practical calculation?—Yes.

16244. Then you would omit grammar altogether?—I think it would be advisable.

16245. You don't think grammar affords some training of the intelligence?—It may do so in the third class, where they are only required to know the parts of speech. But I find very commonly that the boys who are good passers in the third class, and tell the parts of speech correctly, are quite unable to do it in the sixth class.

16246. I should have thought that showed bad teaching?—No, but their senses have been so confused over "perfect" and "first and second future" that they are quite at sea.

16247. Is not that an objection to the method of teaching and not to the subject itself?—It would apply to the method somewhat.

16248. Does it apply to the subject at all?—Grammar as a subject is too abstract for the comprehension of little boys.

16249. Apparently you were able to get boys in the third class to understand the distinction of parts of speech, surely it cannot be very difficult for them to add a little more in the fifth or sixth?—Yes, sir, I will give you freedom to ask any of my big boys what is meant by perfect, and I don't think they could answer you.

16250. Your objection is to the method, and not to the subject itself?—To both.

16251. Why don't you adopt good methods?—We have no time for that.

16252. I should have thought good methods would take less time than bad ones?—It would be a very good method to devote more time to a thing, and pay attention to nice refinements, and develop the boys' intelligence, and you would find at the end of the year that they could do certain portions of the programme well, but not others, and the whole class would fall miserably.

16253. Do you use a book in teaching grammar?—Yes, they learn the definitions by heart.

16254. Do you think that is a good method of teaching?—I do.

16255. Don't you think the ability of distinguishing different parts of speech is more important than anything of definition?—It is a more practical test.

16256. Coming to geography, does it appear from the programme to be quite conclusive that you should teach heights of mountains and lengths of rivers?—No, but practically it is the programme because the inspector asks the questions.

16257 Then, may I ask if you see a book in teaching geography?—Oh, yes.

16258. You don't think it could be taught without one?—I think it could, and better taught without a book, but the book is an auxiliary and a valuable one when used properly. As a matter of fact in our schools our boys never look at the book and they come into the school, it is altogether taught by the map.

16259 Then, again, your objection as to the method of teaching the subject, not to the subject itself, if these subjects were better taught they would tend to train the intelligence of the children?—They would.

16260. But you would find time for other subjects still, particularly the teaching of science?—That is most necessary.

16261. In teaching science would you use a book?—I think a simple book would be most useful.

16262. In the hands of the children?—Yes.

16263. Don't you think it would distract their attention from the particular object?—A great many of the boys would derive great benefit from the books, books of science are at present so well illustrated.

16264. Is not seeing a thing much better than seeing a picture of it?—Yes, but it is not possible to see all the things mentioned in the book.

16265. It is necessary to see all the things in the book?—Some of the things in the book are indispensable to teach.

16266. For instance in one of the science books used in schools there is a lesson on the Great Water Beetle, and there is an illustration of it there, would you allow the children to read that lesson or let them see the Great Water Beetle for themselves?—I would like to let them see it.

16267. Would you not think it much better to leave out that lesson and take the development of a frog, actually show them the development from the spawn?—That would be a good idea, but it would not be very practicable. Suppose a book says the earth goes round the sun, you could not very well show the orbital progress in a class.

16268. You may make those statements by word of mouth. What do you suppose is the object of teaching science?—To develop the boys' powers of observation.

16269. And sense of accuracy also?—Yes.

16270. Would not such a procedure as this develop the boys' power of observation and accuracy to make him take the reading of a thermometer in the school every day?—Yes, that would be very useful.

16271. When you had given a lesson on a flower to make him bring the same flower next day?—That would be delightful science and very desirable.

16272. There are many things that would train a boy's observation, which could be easily done at the hands of every teacher, and perfectly well done without any book?—Yes.

16273. Drawing, of course, develops accuracy in boys?—Most decidedly.

16274. Particularly scale drawing?—That is entirely absent from our schools.

16275. Your programme is at present confined to freehand drawing?—Yes, and very difficult freehand drawing.

16276. You consider freehand drawing of some value?—Certainly; considerable value indeed.

16277. But it would be advisable to add drawing to scale?—Yes.

16278. Would you add drawing to plan and elevation?—Yes, of a simple nature, boys get very tired of freehand drawing day by day.

16279. Would it not be very useful to have some simple instruction going side by side with the drawing, to show the practical application of the drawing?—Of course, that would give reality to the drawing.

16280. Suppose you drew the plan and elevation of a simple object, it would make that drawing much more intelligible to the boys?—Most certainly.

16281. You say manual instruction in schools should be optional, but you would hold out inducements to take it up?—I would, sir, certainly.

16282. That is to say you would consider it essential that as regards how it should be in as good a position as other subjects in the programme?—The teachers won't take it up if it is not.

16283. Professor FITZGERALD.—Do I understand that the reason you and other teachers don't take up the science under the National Board is, because you don't know what it will be like?—Yes.

16284. It is because of its uncertainty?—Yes, the programme is vague and inadequate.

16285. Is the Science and Art programme more detailed?—Very much more detailed in the system of the science I have taught, in the subject called elementary physics the detailed list goes on to thirteen pages of what one has to do.

16286. And that makes the result of the examination more certain?—Well, it lays out a good line of instruction to go on, and, as you say, it makes the examination more certain in its results.

16287. Which would you rather have, a detailed programme or a free hand, and let the inspector come round and see what you are doing?—I would rather have the free hand, decidedly, but what about the result first.

16288. In elementary science teaching do you think it would be possible to get children in the country parts to make collections of objects, collections of injurious insects and plants, that grow in the district, and so on?—Of course, it would be possible and desirable. I darenay some of the teachers say not be content with the particular injurious insects or plants, but with the help of the training colleges, they, at least, ought to be able to distinguish them.

16289. Do you think it would be a thing that a teacher would find time to do?—Well, yes, sir, if he was a teacher worthy of the name.

16290. I think you mentioned that the Euclid course at present, or geometry course, went on too fast?—Very much too fast.

16291. If the boys had had some geometrical drawing to do before they began their Euclid, because this is the course for the sixth?—It may be taken from the fifth junior.

16292. Suppose in third and fourth they had done some geometrical drawing, would it not enable them to do their Euclid more easily?—Yes, but the same difficulty would arise of providing them with instruments, that is, a considerable difficulty, a set of instruments costs 2s.

16293. The instruments in every country but Ireland?—Almost every country.

16294. Mr. STRUTHERS.—A ruler does not cost much?—No, a halfpenny, but a compass costs 2s.

16295. Mr. RAINBORNE.—Could you not keep the compasses, and give them out to the boys each day?—Yes, sir, I had to do that, but it meant I bought them myself.

16296. Turn they would last for a long time?—No, unfortunately. In the boys' hands they would last with care about a month. The key of the compass where he inserts the pencil always breaks in a short time.

16297. CHAIRMAN.—From carelessness?—No, but from the inability of the boy to do a simple thing. A boy cannot point a lead pencil for drawing, we have to prepare them before the lesson commences.

16298. Professor FITZGERALD.—Do you think as a matter of fact many of the present teachers would qualify for hand and eye teaching?—I think most certainly they would.

16299. If they had opportunities?—If they had opportunities, which I think should be provided for them.

16300. And for the elementary science teaching?—Yes, many of them would qualify gladly in that.

16301. Rev. Dr. EVANS.—Do you know the minds

Witness.
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Mr. Witham
R. Joyce, &c.

Limerick.
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Mr. William
D. Joyce, &c.

of the teachers generally throughout the country?—No, sir, unfortunately I am in no way representative.
16302. Do you think the views you have just before us to-day are shared by the other teachers throughout this locality?—I cannot say that I believe they are.

16303. Your brethren differ from you, perhaps, in many points—they would not say ditto to all you have said to-day?—I am afraid they would not.

16304. Do you happen to know whether many of the pupils of National schools go on to higher schools and universities?—I could answer that for my own school. Out of 250 boys who left my school during the last two years, I find that eleven, or 4.4 per cent., went on for college, some of those would reach the university afterwards, perhaps most of them.

16305. Can you give any idea of the course which others took?—To labour, 11 per cent.; 19 per cent. went to trades; 7 per cent. went to business, that is to say, to shops; 10 per cent. went as porters and messengers; 14 per cent. went as clerks, that is to say, book-keepers; 4 per cent. went as farmers; 2 per cent. teachers, and to the civil service; 2 per cent. soldiers and sailors; 4 per cent. died; 4.4 per cent. to college, 15.2 per cent. left for other schools, and the remainder are unaccounted for or gone to America, they are a slight percentage.

16306. Would you think it right to deprive all those people of the opportunity of learning the grammar of their own language?—When boys pass in the fourth class, 79 per cent. leave our school, 21 per cent. remain; I don't see what very great good Ireland can get by teaching the remaining 21 per cent. the notion of grammar.

Mr. William
Duffell, &c.

Mr. WILLIAM DUFFELL, B.Sc., Agricultural Instructor to the Trustees of the Limerick Endowment for Technical Education, examined.

16314. CHAIRMAN.—You are the agricultural instructor to the Trustees of the Limerick Endowment for Technical Education at Newcastle West in this county?—Yes, my lord.

16315. Will you tell us what faults you observed and what difficulties you encountered in your teaching?—The first fault I have to find is with the results system as a whole, throughout my teaching I am always falling across it somehow or other; first, because it tends to cram, the boys are taught the book, word for word, but when you come to ask them what is meant by the words in the book they cannot tell you at all.

16316. Will you tell us what the frequent result of the system is?—The frequent result of the system is that the clever boys that are able to quickly pick up the work are left alone because they can learn it quickly, and all the attention is paid to the dull boys to pull them up so that the teacher can pass them.

16317. That evidence applies only to the agricultural instruction?—That is as far as my experience goes.

16318. That does not involve the element of attendance in the ordinary school. I understand that if a boy has not made the requisite number of attendances as far as results goes, there is no use thinking any more about him, because he is disqualified. That does not apply to agriculture?—Yes.

16319. Do you find boys show a want of reasoning power?—I do, you give them two facts and they are quite unable to deduce a third which ought to be quite apparent to them.

16320. Do you find the teachers in the National schools are well fitted as a rule to teach agriculture?—As a rule I think they are quite capable of teaching agriculture where they have had any training; some of them complain they have had no training. I heard one of the teachers complain the other day that he had no training, but he was supposed to teach agriculture.

16307. What would you substitute for grammar if you left it out?—I would substitute elementary science.

16308. Do you know anything of the books of the board forty years ago?—I have some of them.

16309. Do you know how largely they taught elementary science and natural history?—Yes, but I don't approve of the elementary science taught in them, I think there were some of the most silly things I ever read in my life in them. In describing the motion of the earth round the sun, a book describes the earth as coming to perihelion, and goes on to say only for the mercy of God, who is omnipotent, certain things would happen.

16310. Why was it that school books which taught science largely had to be changed for more literary readers?—Because the terminology was too difficult for children, and the teachers were not so conversant with scientific subjects as they are to-day.

16311. Then it comes to this, if we are going to do things right we should have new books to teach elementary science, and displace the whole series of readers?—I don't say we should go as far as that.

16312. Professor FERGUSON.—Did you not agree rather with Mr. Scrathorn in considering it was desirable that science should not be taught from books?—No, I would like to have books with real instruction, but I would essentially have the practical teaching.

16313. So the science you propose to introduce now is quite different from the science given up?—Yes, essentially; there was no such thing as an experiment made in the former methods.

16321. Do the courses at Glasnevin commence at convenient times for the teachers in this part of the country?—As far as the experience of teachers in my district, no. I think they might be re-arranged with benefit to the teachers. One of my teachers wished to go to Glasnevin, but the course did not suit him, so he did not care to go, and there he is left wanting that knowledge he otherwise would have.

16322. What do you think about the text book?—The text book is an admirable book in its way, but to teach the boys in a National school, it is one of the worst books you ever laid hold of. It is a book all consisting of practical facts, that is not the book you want, you want the principles underlying the science. You cannot learn anything out of a book. You want to teach them the science so that they will understand the practice afterwards.

16323. You don't think the illustrations in the book are sufficiently good?—Very bad indeed, and very few of them.

16324. What do you say about the gardening section?—It is far too much drawn out, there is a whole list of flowers, and the head master himself is unable to pronounce them sometimes, and very likely the inspector cannot sometimes, such names as Eschscholzia, which the boys are expected to learn off and pronounce—it is a waste of time.

16325. Do you think there is any provision that an inspector should have a good knowledge of agriculture?—As far as I can find out I don't find that it is necessary for an inspector to have any training in agriculture at all, from the rules of the Board.

16326. You don't think an untrained inspector is any better than an untrained teacher?—I don't think so; I don't think he can examine intelligently.

16327. What do you say about school gardens?—They are very useful indeed, but there is a drawback to them at present; the Board makes a boy pass in theory before they will allow him to be examined in practice. I think the teacher should be

said if the boy could pass in practice without any reference to theory at all.

16328 It is only in cases where there are school gardens that he can pass in practice?—Yes.

16329 But in cases where there is a school garden do you mean he is not allowed to get any instruction in the garden until he has passed the book work?—When he comes up for examination before the Inspector, so I understand, if he fails to pass in the theoretical part of the examination, the teacher cannot present him for the practical part, so he gets no benefit for all the teaching of the boy beyond the benefit the boy gets himself, and that deprives many teachers from taking up the school garden.

16330 That would prevent the teacher getting his fee, but it might not prevent the boy getting some practical knowledge?—Oh, no, in that way it is a great fault of course.

16331 What remedies would you suggest?—First, with regard to the individual results examination system, I think it might be done away with, and the same system applied as is now used in England and in Scotland, and that I believe was used in this country at one time.

16332 You are speaking only with reference to agriculture?—Well, that is all the experience I have had. Then, as far as possible, less rote work, more learning late of names; I think they are useless in many cases, because the boys don't understand what they are learning, and their reasoning powers should be more developed by small experiments and other teaching in that manner. Secondly, with regard to rural teachers who are teaching agriculture, I think that if the National Board of Education continues to give those very high grants for agriculture—agriculture is the best paid subject of all—I think they should themselves give the teachers a better training in agriculture than they do get. I have spoken to several teachers, and although there is provision made for agricultural teaching while they are at Mac-brough-street, it is only done in a very perfunctory manner, and really they get very little teaching—of course that is only from hearsay—I cannot say whether they do get a good training or not. And I think that where the teachers of the district wish for Saturday classes in agricultural subjects, arrangements should be made if possible for them to have those classes; of course there is no scheme for that at all at present, but if it could be arranged it would be a great benefit to teachers. In some districts they have asked for those things. With regard to the holiday courses at Glanerin, certainly for my district they could be rearranged to start at more convenient times, to fit in with the holidays better. With regard to the text-book, I think that a fresh text-book altogether ought to be drawn out, the teachers complained about the last text-book, and I think the present text-book is even worse. I would much prefer to teach from Mr. Baldwin's text-book than the present one Professor Carroll's is a very good text-book, but it does not suit the boys. For instance, the boys are told about thoroughbreds, but that is very little use to an average boy. The list of flowers is very hard, and in many cases of no practical value to the boys, and might be done away with. With regard to illustrations I find that most important, if you show an illustration the boys learn the thing much quicker, and the more illustrations there are, the better the book would be; the present illustrations are very poor in quality—some of the horses and cattle that are shown as examples of good stock, are hideous. As I said before, the best text-book for a boy would be a simple book, such as Fenn's "Agriculture", that is at present used in England, and is a very suitable book, if compressed, or the Down-ton Series by Professor Wryghton, of the Down-ton College of Agriculture. Those books, if judiciously arranged, would suit admirably. I use them myself, and the boys like them, and seem to learn better than

out of Professor Carroll's book. And, furthermore, the order in which the book is taught to the boys I think might be rearranged. At present the measures are taught to the boys, I think, in the fourth class, or at any rate in the lower fifth. Such an important subject as that might well be left until the boys get older and better able to take it in, because little boys of ten or eleven are not able to grasp an important subject like that; what they want is just a simple part of the book first. Then with regard to the inspectors—I have had very little experience in the matter—but I think if the inspectors inspect in agriculture it would be a great advantage if they had an expert knowledge. I don't see at present that they are compelled to have any knowledge at all, and I think the best to be expected is that the Inspector should have an equivalent knowledge to the teacher in agriculture, and should be compelled to pass through the same course, because I cannot believe an inspector can inspect intelligently until he has some acquaintance with agriculture. I don't wish to cast any reflection on the present inspectors, because I have never seen them examine; but in the rules of the Board they do not appear to be compelled to have any qualification, and a man cannot examine intelligently unless he has some acquaintance with the subject. With regard to school gardens, I do not think that boys should be compelled to pass in the theory before they can be presented for the practice, because the practical part is much more important to them. I think only two of the three head classes should learn gardening. I have a school garden in my district, Castlemaison school, but the head master found that the smaller boys, if you set them weeding, pull up everything in front of them, cabbages and weeds and everything. And lastly, the teaching should be made practical by means of specimens. There are very few specimens in any of the schools, in one or two schools there may be diagrams of grasses; in none of the schools are there collections of grasses. I have a collection of my own for teaching. I think the Board should supply those collections free. I think it might be done in some of my own schools.

16333 Mr. REMONRO.—You are in favour of the teaching of agriculture in the schools if there were proper text-books, and if it were taught in connection with experiments?—Certainly.

16334 Do you think a boy of the fourth class ought to learn agriculture?—I don't say he ought, but he certainly can learn it with benefit to himself.

16335 It is useful to teach him?—Yes.

16336 You don't think that it would be sufficient to teach him elementary sciences without going into the details of agriculture?—It is elementary science, the beginning of agriculture, and I find the boys can understand it perfectly too, if it is only elementary enough. Of course other elementary sciences are very useful indeed, if they have time to teach them.

16337 I don't know the books you speak of; but do you know Dr. Tanner's books?—Yes, I do.

16338 Are they the kind of books you would approve of?—The style of Dr. Tanner's book is very nice, but the matter itself I certainly don't agree with; he is far too theoretical, and he has some peculiar theories that are not accepted by present-day agriculturists.

16339 CHAIRMAN.—Were you at Downton yourself?—No, I was not.

16340 Mr. REMONRO.—Do you think the style in which it is written makes it more attractive to boys than our text-book?—Certainly, the boys can understand it, but the present is more facts—it is not elementary science at all.

16341 Don't you think it is too childish?—I agree with you that some of Dr. Tanner's books are very childish; some of the more elementary of them.

16342 Would you wish the boys to be examined in agriculture by an agricultural expert?—That would

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be certainly the more satisfactory method, because that would ensure intelligent teaching; he would not examine mechanically; he should be a man who understood agriculture thoroughly.

16343. Would it not be easy for any intelligent inspector to learn a sufficient amount of agriculture to examine children in elementary schools?—I am doubtful whether he could.

16344. Might I ask in what part of England you were teaching agriculture before you came here?—I never taught it at all, I just graduated at Durham University last year.

16345. There is an agricultural course in connection with the University?—Yes.

16346. Is it attended by elementary teachers to any extent?—Not the degree course, but there are Saturday classes for elementary teachers.

16347. And are the Professors sent on Saturdays into the rural districts of the county?—No, teachers come from the rural districts to the centre, and their expenses are paid and dinner given free. That is done by the County Council.

16348. CHAIRMAN.—Have not the County Council experimental plots?—The Northumberland County Council have.

16349. Mr. REMINGTON.—Did the elementary teachers come in large numbers?—I won't say they came in large numbers, but they came in satisfactory numbers.

16350. As a result do they teach agriculture in their schools?—I am not aware that agriculture is taught in any schools, or in very few, except under the Science and Art Department.

16351. If you consider it a good thing to teach it to boys of the third and fourth class here, why is it not taught in England?—Because I think England is much more a manufacturing country, and agriculture is not so important in the schools as in Ireland.

16352. I thought agriculture was England's greatest industry?—It is, but the parents of the children who are engaged in other industries would complain if their children were taught agriculture.

16353. Mr. SUTHERLAND.—There are large districts purely rural?—Yes, and I have no idea why it is not taught there.

16354. Mr. REMINGTON.—Will you kindly explain to the Commission what are your duties in connection with your present position?—I have eight schools that I teach at, and I go to each of these schools once a week, except the Newcastle school, where I go three times, and to two other schools twice. I teach one lesson a week as a rule; a class nearly as possible here an hour, or I may teach two lessons of half an hour each on agriculture to the boys. Of course I teach in conformity with the rules of the Board the subjects that the Board require.

16355. You teach in the ordinary school hours?—Yes.

16356. CHAIRMAN.—Are these National schools?—Yes.

16357. Mr. SUTHERLAND.—And the pupils are examined?—They are examined by the inspector.

16358. Mr. REMINGTON.—You are working under the Trustees of the Lamerck Endowment for Technical Education?—Yes.

16359. And Newcastle West is your centre?—Yes.

16360. Mr. MOLLER.—How long are you connected with Irish agricultural schools?—I met eight months.

16361. And the extent of your experience is confined to eight schools?—Yes.

16362. On what then did you base the statement that the rural system was all wrong, was that confined to agriculture alone?—Agriculture alone. I cannot speak as to other subjects. I don't say that it is badly taught, I don't say that it is the teacher's fault, but I think that the system tends to its being badly taught.

16363. In Newcastle West the head master is first of first, is he not?—Yes.

16364. Would you say that he teaches the subject badly?—I don't say that he teaches it badly; he teaches

it intelligently as far as possible, but then the idea put before them is that they have got to earn their salary, and it does not pay them to teach the subject intelligently. You may explain everything, but it would be a waste of time, for you could not then get through all the work that has to be done.

16365. Mr. REMINGTON.—In fact it is the system you are criticising, not the individual teacher?—The system.

16366. Mr. MOLLER.—Are there school gardens or plots attached to the eight schools you attend?—To just one, the Castleknock school.

16367. Then your instruction is theoretical?—Essentially theoretical, except in so far as making them collect me the grasses and a few flowers, and bringing specimens which I show to them.

16368. Have you introduced any Saturday classes for the teachers in agriculture?—No, there was no encouragement for me to do so; I suggested it, but the teachers did not seem to want it, so there was no further mention of it.

16369. In how many of the eight schools are these collections of grasses carried out?—In two of the schools there are diagrams of the grasses, but there are no actual collections of the grasses themselves in any of the schools. I made the boys collect the grasses themselves and bring them to me, but there are no dried and mounted specimens in any of the schools.

16370. Professor FRYCHELDER.—Is it not much better to get the boys to collect the grasses?—It is a splendid thing, then they learn to know them.

16371. Mr. MOLLER.—In the Durham Agricultural College there is practical agriculture taught; what is the duration of the course?—For the B.Sc. it is three years.

16372. Is it residential?—Yes; you are obliged to take classes at the college.

16373. Mr. REMINGTON.—Is it the Durham University?—It is a college under the University.

16374. CHAIRMAN.—Is it at Newcastle-on-Tyne?—Yes.

16375. Mr. MOLLER.—Is there a large farm attached on which agriculture is carried on?—Yes.

16376. And during the three years you attended there?—Well, you go out to see the farms of the district, there are no fixed hours.

16377. The students of agriculture do not take an active and practical part in working these farms?—No, they go to see operations performed occasionally.

16378. You recommend the use of a text-book?—I do not think you can do without a text-book very well.

16379. But the present text-book you think might be improved?—It may be improved greatly.

16380. You are not quite right, I may tell you, in your statement about the inspectors under the Board, that no steps are taken to secure information in agriculture on their part before commencing to inspect schools in that subject?—I cannot find the rule.

16381. How many hours in the week would your duties extend over?—Twelve hours a week actual teaching, exclusive of travelling about.

16382. Mr. SUTHERLAND.—You teach in these eight schools, have you any other form of agriculture teaching?—I give lectures to the farmers of the district.

16383. That occupies more time than the school teaching?—No, the school teaching is the important part.

16384. Suppose you had to teach agriculture in the district, which would you think the more important, to teach classes of boys of seventeen and upwards, or to teach boys in school of eleven or twelve?—Certainly, the grown boys.

16385. Don't you think that at eleven or twelve all you can do is to give them training in the intelligence and simple observation?—That is all you can do I agree with you.

16386. And it is rather a mistake to call the teaching at that stage agriculture?—Certainly, it is very elementary agriculture.

16387. Would it not be better to call it elementary science leading up to agriculture?—Yes, that is certainly what I should call it.

16388. Would you call agriculture a science?—Yes.
16389. Would you not rather call it the application of many sciences to farming?—Well, I have heard it called science, and I am accustomed to call it science.
16390. But might you not take that view of it, that it is the application of a great many sciences to this particular industry of farming?—It is.

16391. And the application of science to any particular industry is technical education?—Yes.

16392. So that agriculture would be more suitably taught in technical colleges?—It would as agriculture.

16393. Although in the elementary school you might have elementary science leading up to the work of the technical colleges?—Yes.

16394. As to your actual work, you teach the boys agriculture, just as the National Board masters would?—Oh, no.

16395. I mean you teach the boys for the purpose of passing in agriculture?—Not at all.

16396. These boys you teach are put forward for grants, are they not?—Yes, but my teaching is not at all with that object, but to improve their knowledge of agriculture.

16397. But still the fact remains that these boys are put forward?—Yes.

16398. Are they taught agriculture by anybody else besides you?—By the schoolmaster.

16399. Then your teaching supplements the schoolmaster's, and is not in place of it?—Certainly not.

16400. I misunderstood you. Then you use a text-book which you mentioned?—The Downton series I use myself.

16401. Instead of the text-book of the Board?—Yes.

16402. That is allowable, is it not?—Well, I am not bound to use any text-book at all, but the way I do it is, I use this text-book, but so fit it in that it agrees with the programme of the Board.

16403. Must the ordinary teacher use the book?—He is compelled, I think, to take the text-book of the Board, of the examination the inspector would examine on the text-book of the Board.

Mr. J. B. BRADSHAW, Teacher, Cappanore National School, Co. Limerick, examined.

16414. CHAIRMAN.—You are the principal teacher of the Cappanore Male National School?—Yes, my lord.

16415. How many pupils have you?—The average attendance for the last quarter is 109.

16416. What is your length of service and your class?—Second of first; I am unmarried, and I have thirty-one years service as principal teacher.

16417. I see on your memorandum there are some heads which are outside the scope of our Commission; I will come down to what are not outside. What are the subjects on the present programme which you think may be advantageously modified or curtailed?—I would not go in as some teachers do for smutty grammar. I think that a most intellectual exercise, and, although it does not always succeed in making people correct speakers, I do not see how they can become correct speakers if they have not a knowledge of grammar. But I would say geography might be curtailed. At present under the results system it consists principally of a repetition of a number of names and facts. For instance: "Where and what is Turkey?" "Where and what is Carthage?" If geography were made something more of a readable subject, teaching climatic influences, colour of people, their religion and habits, it would become much more attractive than at present.

16418. I suppose you would advocate that a person should be able to find out places of importance on the map?—Certainly, my lord.

16419. And if a person could find any place, it was desirable he should know, on the map, he would know a good deal of geography?—Unquestionably. As regards arithmetic, I think the course is entirely too extensive. I would confine myself to commercial

16420. It comes to this—that probably these boys you are teaching from the books you use are also being taught agriculture from the text-book of the Board?—Yes.

16421. Professor FITZGERALD.—Is there any way by which your teaching is tested at all?—No, I don't think there is any way by which my teaching can be tested.

16422. You think it is desirable to encourage boys to make collections?—Yes, the most desirable thing possible.

16423. Do you think that the elementary sciences underlying agriculture is the kind of thing a teacher could teach?—I think they are quite capable of doing it if they had the training in it.

16424. Do you think many of them would do it?—Yes, I think they would.

16425. Do you think they would come in to be taught how to do it?—Yes, I think they would.

16426. Rev. Dr. EVANS.—Have you reason to believe that instruction, such as you give, really stimulates and promotes agricultural progress?—Well, I do in a certain way. I am trying to teach the boys why certain things are done, and I think they will do those things better if they know why they are done.

16427. And you believe that if such teaching were spread over the country it would help on agriculture?—I think it would; many people tell me in Ireland that there has been some result from the past teaching of the Board, and I think if it was continued there would be a similar result.

16428. Mr. REDMOND.—I suppose you have found the boys intelligent and appreciative?—Yes, as a rule they listen very quietly to you and seem to take an interest in the work.

16429. Do you think that making the instruction practical has increased their interest in agricultural teaching?—Certainly, I think it has.

arithmetic, mental arithmetic, and other useful calculations of that nature. I don't see the use of asking a boy in sixth class to insert three harmonic means between eight and ten.

16430. What are the feelings of the teachers with regard to new radical changes in the National Education system?—They look on them with a great deal of apprehension; they say that the results system was forced on them; they were the only protesters, and the results system was sent on its course with benedictions from everyone except the National teachers. They think that other things may be forced on them in the same manner.

16431. What are the other things?—Woodworking and metalworking in rural schools, which we think would be quite unfit.

16432. I think you may put metalworking out of the question, it could not be carried out in a rural school?—There is one thing certain, we won't oppose anything we think for the good of our country and of our pupils; we are too patriotic to do it.

16433. Why do they entertain these feelings?—Principally on account of what happened as regards the results system.

16434. Supposing that what Herr Salomon, who is the great authority in Sweden on this subject, recommended were to be carried out in Ireland; in the first place the introduction of woodwork should be optional, that no teacher should be compelled to teach it who did not believe in it?—That would be a very different thing.

16435. Then would your objections vanish very much?—Oh, certainly, my lord.

16436. What subjects are considered by rural teachers suitable for practical instruction in boys?

Witness.
GIVEN
ON 4, 1895,
At the Public
Room, Dublin.

Mr J. B. Bradshaw.

Limerick,
Oct. 4, 1893.
Mr. J. B.
Widdows.

schools!—Practical cottage gardening, mensuration, and drawing.

16437. With respect to gardening, what would you advocate?—There should be a suitable plot attached to every school.

16438. How much?—Half an Irish acre, and then, of course, the present book I consider very ill-arranged altogether.

16439. What book?—The present text book for agriculture, "Practical Farming," as it is called, especially the new edition, is entirely too extensive, especially the portion on cottage gardening; it contains a lot of matter about flowers and pruning that I consider altogether beyond the scope of children.

16440. Rev. Dr. Evans.—And you believe that is the mind of teachers generally?—Of rural teachers.

16441. CHAIRMAN.—How do you think the teaching of agriculture could be made better, more effective than it is at present?—As regards ourselves I would say that perhaps we stick too much to the book.

16442. Are you a practical man yourself?—In a way I am; I have a very small plot of ground, my garden consists of only about two perches, yet on that I contrive to grow five or six sorts of vegetables. I give some of the plants to the boys, make them sow them in their own little gardens, and bring me back plants when they are grown. I ask them did they ever eat cauliflowers, and if a boy says he did not, I say, "you should grow some." As a matter of fact I grow cauliflowers myself and give away some of the plants to the boys. With regard to flowers, there is not a window in my school in which there is not a box of geraniums; I cut slips off them for the boys, and that engenders a love of flowers. In cottage gardening was taught to the fourth class it would be a decided advantage, because only 25 per cent. of our pupils remain after passing in fourth class, and if they take away only the knowledge which is at present given of crops and other matters of that kind they can never put them into practical work; they are too young, whereas they could pretty well manage a little garden.

16443. Could you form any idea what percentage of your boys go to farms work, I don't mean mere labourers?—Between farmers and labourers I would say nearly 80 per cent.

16444. Men who are likely to own and manage a farm themselves in after-life?—I would say not more than about 30 per cent.

16445. I suppose you think there is room for improvement in the farming in your district?—Unquestionably; as a matter of fact I go on some well-tilled farms myself to gain some knowledge. There is a very eminent gardener living not far from me who is a friend of mine, and I get him to inspect my garden the other day, and he gives me very good advice, and I have free access to the gardens which he manages. But there is one matter which has been mentioned here by men who can perhaps talk better on agriculture than I, and that is the collection of grasses. I do not attach much value to that; I would attach more value to a person knowing the nature of the soil and the grass seed suitable for it. I showed two ryegrasses the other day to a practical farmer's son, and he could not tell me which was which. "Which of them," I asked, "has sown on it?" He pointed it out at once. And I said, "Which does your book tell you that is?" And he said, "Italian ryegrass." "Very well," I said, "that is Italian and this is perennial," but I don't see what good that did him.

16446. What subjects are considered by rural teachers as suitable for practical instruction in girls' schools?—Plain sewing, knitting, darning, the use of the sewing machine, and cookery wherever practicable.

16447. Are the teachers in your district favourable to the teaching of cookery in schools?—The female school in connection with mine is taught by Nana, and they have no objection whatever to it.

16448. Has it been attempted yet?—It has been attempted in the parent house of this community,

which is three miles distant. There was a kitchen set up there in the late Inspector's time, and they personally teach it there; but the great difficulty would be in teaching cookery; that when the girl goes home the cooks under different conditions, she has a range perhaps in the school and she has an open fireplace at home.

16449. Why should you not have an open fireplace, if that is the sort of thing she has to deal with afterwards?—The very same objection would apply; several cooks would prefer the range.

16450. Professor FRYER.—But they move too much without a range?—If it could be cooked in the same place as she has at home.

16451. CHAIRMAN.—I suppose that is one of the reasons why it is so difficult to teach grammar, because the children find at home a different way of talking to what you teach them at the school?—Unquestionably; when a boy commits an error in grammar, I always just repeat a worse one, and he sees his error very quickly; then I will ask him why one is wrong and the other right.

16452. In what case can the co-operation of the teachers be expected?—If the subject introduced is such as they think will be suitable to their schools and if no part of the present grant—I suppose we see a little bit selfish—if no part of the grant for educational purposes would be devoted to the new matter.

16453. You think new matter should be paid for separately?—Yes, my lord.

16454. And should be introduced in such a way as to diminish the earnings of the teacher?—No, nor taking old men like myself, our position may become insecure; managers may take it into their heads to displace us, and I think it would be very hard on a man of my service to oust me, because I cannot do woodwork. I don't believe there is the least danger of it with my present manager, but it may happen; if there was a change of managers to-morrow I may get a crack to deal with, who may be Sloyd-trained, and run me out.

16455. From whom do you think the keenest opposition may be expected?—I would say from the parents.

16456. Why do you say so?—That is my experience.

16457. But you have not had the thing introduced?—I look at the past, and when we consider that the alternative scheme for girls' schools was one that might be considered to take specially, and I have never yet met a parent who appeared of it.

16458. That is quoted to us constantly, but I do not think myself it is quite parallel. The only experience we have had of woodwork in the county parts of Ireland was at Limerick, and I put the question to the gentleman we were examining whether the parents objected, and he said before the thing was started some of them did object, but that now there are 24 pupils at this work in the school, and only one parent objected!—They actually do object, I know it as an actual fact, and as the father of children I am very sorry it was introduced into the girls' school.

16459. You are talking of sewing, I am talking of manual work?—I apprehend parents would regard the Sloyd in the very same light, they say that they send their children to our schools to be made scholars of.

16460. Mr. REMINGTON.—What if it was made optional?—That would do away with a great deal of the objection.

16461. CHAIRMAN.—The theory of the introduction of manual work is, not that it is to be a technical subject at all, but something that will make the children observe and apply their powers of observation, and so induce them to make use of the same powers of observation they have to make use of in connection with the woodwork to other subjects of education?—Anything that would be educational or intellectual training there is no doubt the teachers would gladly co-operate in.

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14453. Then you think that if the teachers were convinced after seeing the thing in operation on a small scale that it was educational, their views would be modified?—There is no earthly reason why they should kick against it at all.

14454. What do you think about kindergarten?—I know very little of it, but I have seen the musical drill and action songs and I think them very good in a disciplinary point of view; but then there is one thing I fear as regards all infant schools, that is that the children are unduly pushed on, and when they go to senior classes the strain comes on them.

14455. What do you mean by unduly pushed on?—They are put into higher subjects before they master the lower, and that is another result of the system of results fees. A child may be injured, and the subsequent school to which the child goes may be injured too.

14456. Mr. MOLLAT.—I think you mentioned that you were thirty-one years engaged in teaching?—I am, and this is the anniversary of your first examination of me as a monitor.

14457. Then that includes a period prior to the introduction of the results system?—Yes, something like half-a-dozen years.

14458. What was your experience of the method of teaching during the half-a-dozen years prior to the introduction of the results system?—I would think it far superior, an intellectual system, and there was an elasticity in it. A teacher was left to promote a boy whom he thought fit, or keep him in the same class if he did not think him fit. I think the results system is essentially a system of cram.

14459. In connection with the system prior to the introduction of results, there was a standing programme, was there not?—There was. The Inspector came and examined the class, and if he found the generality of the class good the teacher was promoted a good man.

14460. Had you any agricultural instruction prior to the introduction of the results system?—Oh, yes; I taught the old agricultural class book, Martin Doyle's.

14461. At that time you had also a school garden?—The little bit of a garden I have I had not at that time, because I was a free lance, an unattached man, not settled down at all. The little bit of land I have is attached to my own dwelling-house.

14462. What extra do you take up in your school?—Algebra, geometry, and physical geography.

14463. You stated to the Chairman that you thought that geography might be omitted?—Yes, I think it could.

14464. Would you advocate the propriety of using geographical readers of an interesting kind?—Yes, I would think it would be far superior and more interesting.

14465. You referred a while ago to cookery; is not yours a boys' school exclusively?—Yes, but I take an interest in the girls' schools. I have two girls, one at Booterstown and the other going to school at home.

14466. Then the Cappamore girls' school is a branch of the convent at Doon?—Yes.

14467. And cookery is not taught at Cappamore?—No, because the school is too small.

14468. You said the teachers apprehended the introduction of manual work?—Yes.

14469. Where did they learn that?—It is in the air.

14470. You have already stated that in the event of manual instruction in woodwork being introduced, provided it was optional, with suitable appliances and separate payment, that the teachers would not, in your opinion, offer any objection, but would endeavor to qualify for giving instruction?—Unquestionably, if they thought it was for the good of their pupils.

14471. Was there more science taught under the old system, prior to the results, or under the results

system?—I would say they were far better mathematicians under the old than under the new, both teachers and pupils. As a matter of fact, the pupil now almost forgets next year what he learned this year. Here is an example: a boy this year got a duck's egg in my school who passed last year in algebra in the very same stage.

14472. Have you taken up experimental science of any kind in your school?—I am not capable of doing it, and I never attempt anything I am not capable of.

14473. What is the number of pupils attending your school?—The average attendance last quarter was 109; there is a large village there.

14474. And a good number of schools about you?—We have five in that parish.

14475. What assistance have you?—Two assistants and two monitors.

14476. Mr. SMITH.—You can teach practical gardening without the use of a book?—The book would be very useful.

14477. Useful to you as a teacher?—I would like that the children would have it too.

14478. But not as a book to be examined on, as a help to teaching?—I would have no great objection that they should be examined on it, provided it was a book they could understand.

14479. Take a practical subject such as gardening; if a boy has actually done certain operations, sowing certain seed and pruning, he has actually done the work, what is the good of examining on it further?—These would be very little good in it in that case.

14480. Or examining out of a book on things which he might not have actually practised?—At the same time it would be a very good thing to examine on the things he had not actually practised, because he might have to practise them hereafter.

14481. You would not object to the teaching of cookery in girls' schools?—I would not.

14482. For instance, these asstidowers you present to your pupils, it would be useful to have their suture taught to ask for them?—Unquestionably; and as a matter of fact I gave some plan to the nuns, at which they were delighted. Even if they were not capably cooked, they may not be spoiled; it is still a nice vegetable.

14483. Do you think Sloyd is the only subject on which managers go mad?—Oh, no, unquestionably not.

14484. Do you think you would single it out more than mathematics or grammar?—Several of them have hobbies. The first manager I had was mad on grammar and, provided my boys answered well in grammar, he would always reckon me a good teacher. Another man would go mad on mathematics. I don't know that there is anyone mad on Sloyd at present; but there may be, and I hope I shall never have any experience of him.

14485. Professor FRYMORALD.—There would be a difficulty about introducing woodwork into rural schools?—I think so.

14486. It is principally on account of the difficulty of getting appliances?—That would be one of the difficulties, of course.

14487. The principal difficulty, I think?—There are other difficulties in the way. I don't see how woodwork could be carried on simultaneously with the literary instruction, except you had a separate room.

14488. A further difficulty would be to get a separate room?—Yes, and appliances, and then, as I said before, I think the parents would not care to have the woodwork taught; that is my firm-rooted conviction.

14489. Do you think that would apply also to any other occupations, such as cardboard work and paper folding, and things of that kind, that would tend to make the children rest?—I don't think it would so much. Cardboard work and paper folding is a sort of manipulation that would be a nice thing in any home; they make up little parcels and have

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to send them away by parcel post, and I don't think those things would be so much objected to. But when a man wants to make his son a carpenter he would send him to the proper tradesman.

16488. But the object of woodwork in a school is not to make a man a carpenter?—It would be so understood.

16489. After they had been accustomed to have cardboard work carried on in school, would not parents be willing that their children should advance and do a little woodwork?—I don't see that the two things are so akin.

16491. Woodwork is a little more advanced?—The material is very difficult; it is very easy for young children to take up a bit of cardboard and turn it when they could not take up an edged tool.

16492. But it is not the young children use it; would it not be well for children in the fifth and sixth class to have something to do to keep up their manual dexterity, and get them into the habit of making things to scale—do you think it is desirable to get children to make things accurately to scale?—That would be going very far.

16493. Supposing you were to make a box to scale, that the child was to make a drawing of the box first, and then was to cut it out accurately, and then put it together so as to make the box of the size originally intended, do you not think that would have an educational value?—It should be a training in accuracy.

16494. And would it not be encouraging children to construct things—children at present take a pleasure in destroying things, and is it not desirable they should take a pleasure in constructing things?—Unquestionably.

16495. So that possibly parents might ultimately learn there was some educational value in this woodwork?—They may, but at the same time I don't think they would.

16496. Do you not think it is desirable to encourage children to observe what is going on around them in the fields?—On the contrary, I have said that I do.

16497. Don't you think getting them to make collections of the flowers they see in the banks, of the different kinds of grasses, will tend to make them observe what is going on around them?—I don't say it would tend to cultivate their observation.

16498. And do you not think it would be desirable to get them to observe whether injuries to plants were caused by animals or funguses?—Oh, yes, I tell them that the green fly will destroy their roses.

16499. Do you not think it would be desirable to distinguish between the injuries caused by the green fly and by red blight?—I am not so advanced in botany as that, but I know the green fly is destructive.

16500. For instance, it makes an important difference in spraying plants whether it is an animal or a fungus you are going to destroy?—would it not be desirable that children's attention should be called to that sort of thing?—Undoubtedly.

16501. And would not one of the ways be to get them to make a collection of plants that were injured by fungi, and of plants that were injured by insects?—That would be a right good thing.

16502. And that would have an educational value?—I should think so.

16503. Do you think the teachers would be able to get the children to make collections in that way?—I don't see any great difficulty that could arise. As a matter of fact, I brought leaves and potato stalks into the school myself, and showed with a magnifying glass those that were blighted, and made the children look at the spots.

16504. Rev. Dr. EVANS.—Do your young people understand such words as multiplier and multiploid and product?—Certainly.

16505. Have you ever had any difficulty in making the children understand such words?—There might be some difficulty, but it is not a great difficulty.

16506. And divisor and dividend and quotient?—Yes, if you take it quietly to explain it.

16507. Is there any harder word in grammar than those?—Is it harder to understand "a proposition" or the names of the tenses?—I don't see any difficulty in the matter at all. They sometimes confound two tenses, the perfect and pluperfect, and I had a very disagreeable reminiscence of that, because one of my boys of eleven got a failure in his grammar for that.

16508. I wish some of you experienced teachers would produce a book to show to how grammar should be taught?—You are not to take me at all as objecting to grammar; on the contrary, it is one of my pet subjects that I always liked intensely. I consider two of the grammars on the Board's list are excellent books—Edwards', and the other one by Mr. Strong. In Sullivan, of course, there is something very good here and there, but there is a lot of stuff in it that boys need not learn.

16509. Have you ever found it difficult to get boys to understand "plus" in algebra?—Never.

16510. Why should it be difficult to understand "plus-perfect," which is simply plus added to "perfect"?—Oh, I am an advocate of grammar.

THIRTY-SEVENTH PUBLIC SITTING.—TUESDAY, OCTOBER 5TH, 1897.

AT 2 O'CLOCK, P.M.,

At Cruise's Hotel, Limerick.

Limerick,
Oct. 5, 1897.

Present:—THE RIGHT HON. THE EARL OF BELMORE, G.C.M.G., in the Chair; THE RIGHT HON. C. T. REDINGTON, M.A.; REV. HENRY EVANS, D.D.; REV. HAMILTON WILSON, D.D.; PROFESSOR G. F. FITZGERALD, F.R.G.S.; STANLEY HARRINGTON, Esq., B.A.; W. R. J. MOLLOY, Esq.; CAPTAIN T. B. SHAW; and J. STRUTHERS, Esq., B.A.;

with J. D. DALY, Esq., M.A., Secretary.

The Most Rev. Dr. O'Dwinn, Bishop of Limerick, examined.

The Most Rev.
Dr. O'Dwinn.

16511. CHAIRMAN.—I believe, my lord, there are a few points on which you wish to submit your views to the Commission with regard to primary schools. Will you explain why you think there is of necessity a difference between the character of the teaching in female and male schools?—So far as needlework is concerned, I think it is generally admitted that it is an essential part of the education of the working girl, and, to some extent, cookery, but I don't know of anything that is in a boy's education that corresponds precisely with these two things in a girl's education. There is no manual work which every boy is supposed to devote himself in his life corresponding to the needlework of the girls. For that reason I think needlework might be taught in the schools generally, needlework and cookery, washing would come under domestic economy. Naturally these things would be taught girls by their own mothers, and, at first, it does not appear to be the proper function of a school to do what should be done for people in their homes. I think, though, the public estimation and the customs of the country have put needlework on a special footing, and, I think, now, the tendency of people's minds is in favour of doing something in the schools for cookery and washing, though, theoretically, there may not be an obligation on the schools to do it.

16512. You think that these subjects you have mentioned would be sufficient to teach in the country schools?—Oh, yes, and perhaps too much, needlework, I think, should be taught in every school, town and country. Cookery might be taught in the larger country towns. There is an intermediate class of schools, between the urban schools and the ordinary rural schools. I think cookery could be very well taught in them. And then, as for washing I am not so sure about it; I think in a city, and in the larger places it might be tried. I have been asking some of the Nuns about it, and they said that if the National Board approved of it, they would be very glad to try it, and they think it could be usefully used.

16513. Do you think anything could be added in town schools?—Yes. I just made a suggestion that possibly typewriting would be a useful thing for some of the girls in town to learn. I have heard of some girls earning their board by typewriting, getting situations as clerks, and also shorthand might be taught. I think in some of the Convent schools, the higher Convent National schools in the city that these things should be taught, as entirely voluntary subjects.

16514. They are not taught at present?—No.

Mr. REDINGTON.—They could be taught under our system, a result fee is given.

CHAIRMAN.—We saw typewriting, I think, being taught in Killybeg in a Convent school, but not shorthand.

16515. Mr. REDINGTON.—Typewriting, shorthand and handwork are now being taught, there is a fee of 2s. 6d. for typewriting, for shorthand, and for handwork?—We have no such classes here in any of our schools.

16516. CHAIRMAN.—Do you think that, as a broad principle, it should not be attempted in primary schools to teach any art?—Yes, I think that is pretty evident.

16517. And you don't include typewriting under that head?—You see I make an exception in these matters of girls' education; I merely state general principles there.

16518. But otherwise you are against technical education being given in the schools?—Quite so, that is in primary schools.

16519. You think that the teaching in primary schools should be to cultivate the faculties of the pupils?—Quite so.

16520. And to prepare them for receiving technical education after they leave school?—Yes.

16521. Do you think, my lord, that there should be any difference in the class of education given in rural and urban schools?—Oh, yes.

16522. In what way?—In an urban school the practical and manual teaching should have regard to the probable careers of the boys—urban pursuits and mechanical occupations; in the country it should be mainly agricultural.

16523. The elements of what sciences, would you say, would bear upon agricultural teaching?—Well, obviously botany, something about plant life and chemistry, something about manures, about the soils, geology would come in, and something about animals, I suppose, biology.

16524. Do you think there are any text-books at present on the subject simple enough for the purpose?—Well, I am not in a position to give the Commission reliable information on the text-books that are in existence. I have seen several of them; I have seen some by Dr. Tanner, and I liked the general style of them, but I cannot say any more about them; as to their accuracy or sufficiency I cannot say, but they struck me as being in general the style of book I should like to see put into the hands of children in country schools.

16525. Do you think you would confine the teaching in the boys' schools in the rural districts to the first principles of science?—Oh, entirely.

16526. And not go deeply into them?—But I should think that the text-books that were prepared, if they were prepared for the purpose and the teaching, should all get a practical bent.

16527. How would you carry that out? Would you be for having a class-room built, attached to the school?—If you were preparing a lesson, say on fungi in plants, I think that could be all explained to children in reference to the potato blight, and so with regard to other things. I would give all the illustrations that were in the text-book a practical and useful turn, so that, without formally setting about giving them information, I would give it to them.

16528. Would you be in favour of school plots or gardens?—I should not attach any great importance to them for the purpose of teaching agriculture, my idea is that if the schoolmaster knows his business, and takes an interest in it, he will be very much in-

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dependent of anything like a school plot. On the roadside he can teach the children all he wants to teach. On the fields about the school or in the neighbourhood he can show them everything he wants to show about agriculture without these school plots, and I think there is a danger that these would degenerate into useful places for teachers, they would be used more for the growing of vegetables for himself rather than for the instruction of his pupils.

16529. Do you think it would not be useful that the children should see how the teacher grow vegetables for himself?—I don't think so; I don't think that is the proper function of the school at all; that is what I consider technical agriculture as distinguished from the principles of agriculture, I would rather take a class of children out into the fields, where the man is digging or ploughing, or doing any other agricultural operation, and explain to the boys the use of it, and how it affected the growth of plants.

16530. I think your evidence comes to this, that while you think that the elements and the first principles of these sciences might very well be taught by the teachers, they would not be competent to teach agriculture as an art?—No, I think not.

16531. And it should not be attempted?—You see if a child comes to school and a teacher goes to teach him how to grow potatoes, and that child goes home to his father, he has been looking at his father doing the thing all his life long, and in a great many cases the teacher would be naturally laughed at by the people, and the parents would find they knew a great deal more about these practical things than the teachers.

16532. Would you carry your objection so far that if there was a teacher, as there are some few teachers, who really have a taste for this sort of thing, and have a small plot, that they should be prevented from utilizing their gardens for teaching?—No, I should not put on any prohibition, but one of the great defects in general about the National Board system is that it is an absolutely uniform system all over the country, a cast-iron kind of system, and there is very little room for initiative left to individual teachers. I should be very glad indeed to encourage everything of the kind on the part of individual teachers here and there, who were competent.

16533. Have you anything to say about the inspectors in regard to this matter?—Yes; I think that the inspectors have the most part to do with the whole thing. I don't think it is sufficient for a man to go into a school and examine what is done actually there and report good, bad, or indifferent, as it may be, but I think he ought to be the adviser of the teachers, he ought to direct the teaching of the pupils, make suggestions to the teachers, and generally do the part of the head master in his district, to cut out the work for them. And that being so, I think he ought to have an absolutely thorough knowledge of everything that is taught in the schools.

16534. Do the teachers think that the inspectors at present are capable of examining in agriculture?—Well, I will give you some little experience I have. I happen to be a member of a Board of Technical Education for the city and county, we discuss a small fund that was created here under the Educational Endowments Commission. It was originally an agricultural fund, and we thought the farest thing to do was to employ it in promoting agricultural teaching in the county, so we formed a centre at Newmarket West, and grouped a number of schools there, and proceeded to get an agricultural teacher to teach agriculture in those rural schools. I went out there, and I met a number of the teachers, and I questioned them as to how the thing was done actually, and it was very amusing. The teachers told me that an inspector would come into the school and open the text-book. And, supposing gardening was the thing, he would say to the boys "will you tell me six hardy annuals that may be grown in a gentleman's garden?" and the

children would then give out a list of flowers, about which they knew absolutely nothing. I said to the teachers:—"But why would not this gentleman ask a commonsense question about the garden himself?" "For the very best reason, because he did not know it." And the teachers all told me that was the system; here and there, of course, there are inspectors who know these things thoroughly well, but the teachers tell me that, as a rule, they don't, and the upshot of it is that there is a book of Mr. Carroll's on agriculture, and so many pages of this has to be got off by the boys in the Fourth Class, and so many pages in the Fifth Class, and they stand or fall by that. That is the whole system of examination in the teaching going on in schools. If the ordinary teachers of the schools are to teach agriculture as an art then it seems to me to be a self-evident thing that they should know it, and I think that is an impossibility. I think it is an impossibility to require all male teachers in Ireland to know agriculture as an art. Then, if they know it, they should know it in such a way as to command the respect of the locality in which they are teaching. I don't think that is possible amongst the farmers of our country, and, therefore, I think it is impossible for the teachers to teach it. I think the system of extern teachers coming in universally, at least into the schools, is objectionable, whatever is done in a school should be done by its own staff, and if a subject is of such a nature that any average boy is required to learn it, then every average teacher ought to be able to teach it, and every inspector ought to be able to examine it, and I don't think that ever can be true of agriculture as an art, and if you are to teach it it can only be by teaching principles.

16535. Having taught principles, you think the time for teaching it as an art is after the boys have left school, and in a different kind of school?—Yes; I think in every county there ought to be technical schools for agriculture, uncertain localities; the teaching of the schools ought to be such as to lead the boys gradually up to the door of the technical school, so that they would be ready for the masters there when they left the primary school.

16536. As regards the teachers, do you think that agricultural sciences should be made an important part of their course of studies when they are in the training colleges?—Oh, yes.

16537. Would you make it compulsory on them to obtain a certificate?—Certainly.

16538. Then you would go so far as to say that in the case of persons coming on to be teachers, nobody should be considered a competent teacher until he had got a certificate in that subject as well as others?—Certainly, with regard to teachers. I saw it stated in the report of the Bessie Committee, that they made the teaching of agriculture compulsory in all the primary schools of France some years ago, but they gave three years' notice before they brought the teaching into force, and in that time the teachers were expected to prepare themselves for teaching.

16539. As regards the inspectors, how would you deal with them in this matter?—They are chosen by examination, and I would so select the subjects of their examination as to secure that they were competent to do this work.

16540. Coming to the subject which we are more particularly inquiring into, the sort of manual teaching which is known as woodwork, what is your lordship's opinion on that subject?—I should like to see in some centre in the country an experiment tried with woodwork as an experiment. I have great doubts as to the advisability of its general introduction in our country schools. Perhaps in the larger towns in every county you might form a centre and bring the senior classes there on Saturdays or off days from the different schools and have a class of woodwork; it would be a very useful thing, extremely desirable for the people, but I have doubts as to whether it would be practicable; that is the only mingling I have about it, that is for the country districts.

16541. On what ground do you doubt it?—Well, you see in the country—

16542. I am speaking more as regards the case of towns!—Oh, it is on a totally different footing in towns from the country. In the towns I should suppose it would be adopted more for its educational effect than for any other purpose. In the country I should like to see it allowed more or less for utilitarian purposes. If I were to teach boys in woodwork in the country it would be to teach them how to put a handle in a spade or mend a plough, or to do something that their fathers and mothers would see was immediately useful. And if you don't put something before them in the country that would be immediately useful, I think the woodwork would come to nothing. But in the towns it is an entirely different thing, it is an educational thing for the purpose of training a boy's hands and a boy's eyes, and giving him general skill to use his faculties, and if there was a good system of manual instruction of that kind, well-planned in the schools, I should think it would be a very useful thing, but I should much prefer, if I have to make a choice between that and elementary science in the towns, I would much prefer drawing and elementary science to the manual instruction.

16543. In whatever form the woodwork was introduced, I suppose, you would think that the teaching of it should be optional on the part of the teacher and of the manager; it should not be made a compulsory subject?—Well, I don't know, if you assume that it is of such importance as is alleged, then I don't see why every boy in the school would not pass through the thing; I have no personal experience of it, but I have been reading about it in some English schools; I saw a report in the papers the other day of some system of woodwork that there is in Birmingham. I think it is, what struck me about that is this, in the first place, it is for Birmingham, and not for all Ireland, it is for a locality, and it grew out of the special needs of the place, and out of the capacities of the people who had charge of the thing. Then it went on from the kindergarten as an unbroken system until it was completed in the special school where the boys were brought from the other schools to learn woodwork and metalwork, and that woodwork and metalwork, I understood, was so taught as to make the boys immediately more valuable in the business world and in the mechanical world immediately they left the school. Well, if a thing of that kind was started here I think it would be very useful, but it occurs to me you would want to have one system for Belfast, and another, say, for a city like Limerick, and in a city like Belfast where you have so many mechanical arts and men employed the style of thing that would be very suitable for them might not be at all suitable for a place like this.

16544. Coming back to the point of this being voluntary or compulsory on the part of the teacher to teach it, which would you prefer, that the teacher should have the option whether he should teach it or not?—Oh, the option.

16545. You would agree with Herr Salomon, who told me in Sweden that he did not believe in making anybody teach anything that the teacher did not believe in himself?—I think so. But there are a good many things the teachers don't like to teach now because they don't feel themselves strong enough, but if the teachers were well taught themselves in the training colleges they would be very glad to teach a great many things that they shrink now.

16546. Is there anything more that your lordship wishes to say before you come to the question of urban schools?—Nothing, except one little remark about the agricultural teaching in the schools. I should like to have a different style of book for the text-book, and I should like to have the teaching made extremely practical, and the boys required to do simple experiments in natural science in all the

country schools, that is the only remark I should like to make.

16547. What has your lordship to say about practical teaching in urban male schools?—In male schools, I think, the most universally useful subject is drawing, every boy in every urban school ought to be taught drawing, and I think in the urban schools drawing ought to be thoroughly well-taught, it trains their hands, trains their eyes and is very useful to mechanics afterwards; carpenters and other mechanics who have been taught to draw are much more useful men in working plans and things of that kind of building, than if they had not learned it. I think for manual and practical training drawing is by far the most important subject in the urban schools. After that I should teach them elementary science.

16548. You think there is a great need of elementary science in the city schools?—Very. With regard to that one would think, you know, that elementary science would be done well in our intermediate schools, our secondary schools. Well, it is a curious thing that out of hundreds of boys who were presented this year for the intermediate examinations in Limerick, not a single boy in any grade presented chemistry; not a single boy presented natural philosophy, in either senior or middle grade. I believe there was one boy in the middle grade and he failed. I think only 11 boys passed in the junior grade in natural philosophy, and that is the sum total of science teaching in the city of Limerick in the schools. The National schools teach no natural philosophy whatever; as far as I know, the Christian Brothers used to teach natural science under South Kensington, but I think they have dropped it lately; I think a couple of years ago some regulation was made by the South Kensington authorities withdrawing their grant from elementary classes and raising the standard and the result has been to cut out the science classes here, so that now the upshot of it is that practically there is no natural science taught in the city of Limerick to anyone.

16549. You think the principles of sanitation, light, heat, and mechanics, and other matters with reference to various trades ought to be taught?—I think so, I think it ought to be obligatory to have classes in these subjects or some of them, in every school, but I should not go so far as to say they should be obligatory on everyone in the school.

16550. Would you require every teacher to be competent to teach science?—Oh, yes, as a matter of course. I think no teacher ought to be allowed out of the training college who had not got a certificate of competency to teach elementary science.

16551. And you think that the teaching should be done by the ordinary teacher and not by an expert?—Altogether.

16552. And the same would apply to manual work, I suppose?—Quite so.

16553. Has your lordship formed any opinion with regard to the inspection of female schools?—Well, not any definite opinion, but I throw it out as a suggestion, that possibly an experiment might be tried with female inspectors for the purpose of advancing the industrial training. I have heard of teachers in schools laughing rather heartily at the male inspector examining some of the needlework and things of that kind. I think that even though the inspector knows something about it yet he hardly will know enough about it to be of help to the school, he can see whether it is well done or badly done, but no further, while a competent woman would be able to guide the teachers, and do a good deal, and if she saw an opening for the introduction of the class in a particular district, where it was not already in existence, she might suggest it to the teachers or managers. But I think the inspectors feel themselves so weak in the needlework and cooking that they get through the thing as easily as they can, and, I

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think, consult their wives before they make their reports.

16554. Would you have male inspectors for literary work in female schools?—I don't see why you should not try a few female inspectors for everything. I don't see why an educated lady might not go into the female school and examine a child in everything.

16555. You would not introduce anything in the way of science into the female schools?—Oh, no.

16556. Then I think the summary of the principal points you wish to bring out is, that a clear conception should be formed of the precise matter of practical instruction, which is to be taught in the schools, and then that the course of studies in the training colleges and the examination for inspectors should be shaped so as to secure in the ordinary staff of the National system competent teachers and inspectors?—Quite so.

16557. In the male schools you think there should be elementary science with a bearing on practical agriculture in the country districts, and mechanical arts in towns, together with drawing in towns. Those constitute the principal part of the practical teaching?—Yes.

16558. You think also that as the Intermediate has diverted the best boys and the best teachers of the Christian Brothers from such practical work, it is important to supply it in the National school?—Yes, with regard to that I should like to say that I really think it is a very great pity, and a great loss to the country that the Christian Brothers' schools have been forced into this Intermediate examination. In the cities they are the great teachers. In this city the Christian Brothers teach 1,344 boys out of a total of 5,124 going to primary schools; no reform in the primary schools will do much more for us in the cities, than touch the fringe of the thing, unless the Christian Brothers are brought into it, but, if the Christian Brothers, in order to support themselves and maintain their schools, are driven into the Intermediate system, as they have been driven, then of course they cannot do this work of practical teaching.

16559. I don't quite follow how they have been driven into the Intermediate?—In this way—the cost of education is becoming higher every year, the competition between schools is becoming keener, and the Christian Brothers, if they were to maintain the high position that they had for their schools relatively in the country must have rewards, must get money. The Government of the country will give them none through the primary system, and so they say—“Here is this competition under the Intermediate, open to all comers, we will go in and put our boys in under this and our plenty of results fees,” and so they are doing. The Christian Brothers earn a very large proportion of all the results fees got under the Intermediate, I think they earned £15,000 or £14,000 last year. In that way they are able to support themselves and maintain their schools on a very high level of the style of education that they are giving. In that way the Christian Brothers are driven into the Intermediate and diverted from their own legitimate work as primary teachers.

16560. Do the Christian Brothers make all their boys take up Intermediate subjects?—Oh, no, what they do is this—in this city they pick out of the various schools in the parishes the promising boys, and draft them into one central school, their Intermediate school, and present the boys in that school for the Intermediate examinations. That must tell injuriously upon the working classes. If you take a poor man's son that has never any possibility of going on to a profession, or going on to any higher position in life, take him from an ordinary primary school, teach him French, German, Greek, and Latin, until he has passed the junior grade of the Intermediate, and throw him aside there then, you have utterly

ruined that child's career, he is nothing, he has got no education of any kind, intermediate or primary, and that is what is happening, and the people don't seem to observe it. In the intermediate last year I saw the figures a while ago, 534 boys passed the senior grade, though 4,000 boys stood the examinations in all the grades, which simply means this, that about 2,500 boys were presented in the preparatory grade, and only about one-tenth of them ever finished the Intermediate course. They are put into the Intermediate as little money-making machines for the schools in the preparatory and in the junior grade, and not for any legitimate purpose of educating them, or bringing them to anything.

16561. You are speaking only of the Christian Brothers' Schools. It applies to all the schools in the country, or a great many of the schools, the whole remark, because the number that pass in the senior grade is out of all proportion to the number that go in for the examinations, unless the preparatory and junior grades were being used illegitimately; in the Intermediate system you should have far more boys going in for the senior grade.

16562. Have you any other remarks you wish to make?—There was just one other thing I should like to say about technical education. I think a technical education school in a city like this ought to complete the manual, practical, and scientific education of the schools; the great difficulty in that will be to find a number of teachers for such technical schools. In that little endowment I was speaking about—agricultural endowment for the country—we had to find a teacher, and we put our selves in communication with the National Board, and we were referred by them to Glasnevin, the Royal Albert Agricultural Institution, and we were in correspondence with the gentlemen in charge of that for about six or eight months; it was a very tiresome correspondence, and we were put in communication with one person, and then with another, but the upshot of it was that there was no teacher of agriculture to be had at Glasnevin, or on the recommendation of the people who are conducting that place. Well, it seemed an extraordinary thing that in all Ireland we could not get one teacher, we were ready to pay him, and pay him very liberally, but we had to go to England, and through Lord Montagu we got a young Englishman, who was examined here yesterday, Mr. Barkitt. Lately they are going some technical classes in the city, and they wanted a science teacher for the city, and we found it rather hard to get one. I saw some of the correspondence between the committee here and some gentlemen who interested themselves in Dublin, I saw where they went, here and there, and everywhere, and at last one gentleman was got, Mr. Jeffcott, a young English mechanic, that came over to study in the College of Science in Dublin. That would point, I think, to the conclusion that you have not got, for technical education in the country, a sufficient body of teachers, and I don't believe that you ever will have a sufficient body of teachers for that or any other higher course, until there is a University education given, that the great body of the people, particularly we Catholics, can avail of. It is a curious thing that we have those two young Englishmen teaching our Catholic children in this city and county, though the number now in the city, 5,000 Catholic children to 537 Protestant children, and in the county, 20,475 Catholic children to 461 Protestant children, according to the census of 1881. If you are to extend technical education in this country on these terms, I think it would be a very great piece of wrong to us, Catholics, in Ireland, and I think you would find that you would not get for technical education the amount of popular support that it would get on its merits.

16563. Rev. Dr. Evans.—About how many National schools, under the management of your clergy, are there in this diocese?—I could not tell you off the reel, but I could get it for you—about 530.

16564. How many Christian Brothers' schools are there in your diocese?—Sutton-street, St. John's, St. Mary's, St. Munchin's, Rents, and Adore.—six.

16565. How many Convent schools?—I can give you three figures afterwards.

16566. Is there any manual instruction in any of these schools in your diocese?—The girls have less of it in cooking and needlework; but for the boys, I don't know of any manual instruction in any of the schools.

16567. Nothing like what there is at Limerick?—No, I read about that in the paper, there is nothing of that kind that I know of.

16568. Do you think it is desirable to introduce this special manual instruction into your schools?—I should like to see it tried, in the first place I should like to see the thing in the concrete, the actual thing, and see what it led up to, then it might be useful. I should like to see it used as an experiment, but I think it is not so all likely to be as popular here as I believe it is in a place like Birmingham. Out of our population of 37,000 people, I don't suppose you have more than 1,000 employed in mechanical arts. A considerable number of the boys of our National schools go to the Civil Service.

16569. And the manual instruction would not help them?—It would not help them so much, but if it were tried as an experiment, and were optional in the schools it would do no harm.

16570. Has your lordship thought of any plan by which it might be done?—You see, I think drawing is a very important part of it, I think the drawing in the school might be very much advanced, I think drawing ought to be done far better than it is done. Then I think that if the teachers themselves are made thoroughly masters of this manual instruction in the training colleges that they then will devise means of working it in the schools and making it popular.

16571. So that you would be in favour of introducing it gradually?—Gradually.

16572. And if, as a result of this Commission's inquiries, a proposal were made to introduce it you would be favourable to it?—Oh, decidedly.

16573. Professor FITZGERALD.—You thought there was nothing in a boy's life that corresponded to needlework in a girl, would it not be very useful, and does not each head of a family occasionally mend furniture and do painting and whitewashing, and other manual occupations?—I don't think so.

16574. Would it not be well if they did?—That may be, but as a matter of fact the two things are on a totally different footing at present and in public estimation, a woman that was not able to stitch would be considered a fool, but a man who could not put a leg on a table would not be considered the same.

16575. Would it not be well to encourage them?—Yes, but you have to take things as you have them. The teaching of useful carpentry work, I don't think would be popular in the town schools or a desirable thing for the schools to undertake.

16576. Do you not think it would be a desirable thing, not for the sake of teaching carpentry, but for the sake of making people handy?—That is the Sloyd system of woodwork, that is a totally different thing, and even when you have that taught to a person it is not on all fours with needlework, because needlework is extremely useful and practical.

16577. Is not that a great use of needlework the fact that it trains people to be handy and to construct things?—Not at all, I think the great use of needlework is to make a skirt and do things of that kind, I think the use of needlework is its usefulness, I don't think people are taught needlework for any theoretical purpose at all.

16578. That may be the reason, but don't you think a good reason for doing it is to make them handy generally?—I don't think so, I think it is done for its practical use.

16579. I think a large part of its usefulness as a school subject is in order to make people handy and neat?—I can only give you my own opinion about it, I believe needlework is taught for its practical utility and not for intellectual training.

16580. You said it would be undesirable to teach an art, I presume you mean mechanical art, not in its artistic sense?—I mean a mechanical art, carpentry.

16581. Do you think it is desirable to have free-hand drawing, which seems to a certain extent the artistic art?—It is most desirable, I think.

16582. Would the managers of this district, do you think, encourage the teachers to learn how to teach elementary science, if there were instructors sent round?—I am sure they would. And would you allow me to interpose a remark in reference to the managers, I think it would be important if managers were encouraged to group themselves into associations by districts, and they were recognised as associations by the National Board. I think a body of managers coming together, putting their heads together on school business, would strike out a great lot of useful things, that might be tried in the schools that individual managers would not attempt, and amongst other things I have no doubt they would encourage the teaching of elementary science.

16583. Mr. STURTEVANT.—Is there anything at present to prevent the formation of such an association?—I don't know, I don't know whether they would have any status before the Board.

16584. Might they not be recognised by the Board under its present regulations?—I cannot tell you, Mr. Riddington could tell you that, I don't know of any such thing, I rather think the Board deals only with individual managers.

16585. But you don't know of any rule that prevents your forming associations here?—No, but I rather doubt it, I have not seen it done, and I know nothing in the Board's rules giving any status whatsoever to anyone except a patron, or manager, of a school, and that in relation to his own school.

16586. But the patron or manager might be an association?—Oh, yes, but I don't know there is anything in the rules that gives them any status.

16587. Professor FITZGERALD.—Of course it would be possible to arrange a committee of managers at present, and put a number of schools under that one committee?—Yes.

16588. But that would be quite in accordance with our present rules?—Would it?

16589. Oh, certainly, because at present there are a number of incorporated bodies that manage schools. Several of the dioceses in the Protestant Episcopal Church in Ireland have got the Diocesan Council, or a committee of the Diocesan Council, incorporated for the purpose of managing schools in the district?—That committee is the manager of several schools; I might be the manager now of half a dozen schools at this minute.

16590. You might arrange that all the parish priests in Limerick were a committee for the management of the schools in Limerick?—Oh, no; that is not what I want, my idea is that each independent manager of his own school might associate with any number of managers in the locality for a common purpose.

16591. Do the teachers, as a matter of fact, like expert inspectors coming in, do they not prefer having all the inspection done by a single inspector?—I should suppose they do. What the teachers look to most now are the results fees.

16592. In any case, is it desirable to supersede the inspectors by expert inspectors?—The only necessity for that is either that you have a subject that the ordinary inspector is incapable of examining in, or that it is a subject that the ordinary inspector ought to be able to examine in, but does not.

16593. I quite understand that when a new subject was being introduced it would be desirable to have

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organisers sent round to advise the teachers!—Oh, decidedly.

16594. But I would have thought that with the ordinary permanent state of affairs it would be most desirable to have only one set of inspectors!—Quite so.

16595. You mentioned the agricultural breeding in France, have you seen anything of the recent syllabus for agricultural teaching in France?—I saw a circular that was sent round to the teachers by the Minister in charge of that bureau, in which he laid down as a fundamental principle for them that they should teach only the principles of agriculture.

16596. That is the line that you approve of?—Resolutely.

16597. You said that drawing ought to be compulsory, but you did not state whether you would change our present drawing course; at present we only teach free-hand. Do you not think there should be geometrical drawing, and drawing to scale?—Oh, yes, for mechanics, and in cities most important.

16598. In fact, almost more important than the free-hand?—I should say so.

16599. Do you know why the teachers don't take up the present science course under the National Board; we have got results for in science?—In a great many cases it may be because they don't know it.

16600. But they used to teach science under the Science and Art Department, why did they not change over and take the Science teaching under the National Board?—The teacher gives on the lines of least resistance, and he takes the subject in which he earns his results fees easiest. I think they found that a stiffer subject.

16601. Mr. SCOTT—I think, my lord, your fundamental idea is that nothing should be taught in elementary schools to prepare a boy for a special trade?—Quite so.

16602. That the instruction given in elementary schools should be such as is suitable for any occupation?—Decidedly.

16603. But you made an exception in the case of needlework in girls' schools?—Quite so, in public estimation I find that thing regarded as part of a girl's education.

16604. Then would you say the same thing about cookery and laundry work?—Cookery, more or less; laundry work, much less.

16605. Typewriting?—Less still.

16606. Would it not be better to have such subjects as cookery, laundry, and typewriting taught as evening schools after the children have left the day school?—Somehow or other, evening schools don't take here at all; I cannot tell why. I have seen them tried very often, but they have always come to the ground.

16607. You have formed no opinion as to the reason why they have not succeeded?—No, I am not sufficiently familiar with the rules of the National Board with regard to them; but I have heard some of the teachers say that the rules work against evening classes; the scale of payment is insufficient.

16608. But apart from the rules of the Board, don't you think it would be a desirable thing to have evening continuation classes?—Very much so.

16609. Especially to teach such subjects as cookery, laundry, and typewriting?—Extremely desirable, and on Saturdays to give classes out of school hours.

16610. In fact, to make them semi-technical schools, which would prepare pupils for occupations in after-life, which don't require any very special training?—Most important.

16611. For the same reason you would not teach the art of agriculture, but you would teach such principles of science as might be useful to a farmer on the lines of the syllabus you have already referred to?—Quite so; I think that is a very admirable programme.

16612. In your view, school gardens and school plots are not desirable—at any rate, of any size?—No.

16613. But you would have elementary science

taught in all the boys' schools?—Every boys' school, town and country.

16614. But not in the girls' schools?—No.

16615. Don't you think that a little instruction in elementary science might be useful in a girls' school?—Well, yes; but you see the girls have to give now an hour a day to needlework, that leaves three hours a day for ordinary school purposes. Here, when we have cookery classes, they give half an hour in the week to theoretical instruction, and one and a-half or two hours to practical instruction.

16616. Does that come out of school time?—Out of the first hours of secular instruction. When you subtract all that from the secular instruction there is not so much time left for the literary instruction, and then you must bear in mind, the literary programme is very high in some respects, but very wretched as a literary programme in the proper sense of literature. Now there is an amount of trifling taught to the girls that I consider a mere waste of time and really a torture to the pupils and the teachers. Then there is sometimes for the higher classes an amount of geography required that seems to me to be very futile too, it is more positive facts, and I cannot see how a girl will be able to carry them in her mind for any length of time, and I see no good resulting from the waste of labour. Then there is the programme of the higher course in grammar, which is very severe for girls.

16617. Your difficulty in the way of teaching science in girls' schools is rather that there is no time for it than that you would not have it?—Somehow or other no one has ever thought of it.

16618. Professor FERRIS—Physiology is very common in English schools in order to teach girls something about the care of their children?—Yes, very useful.

16619. Mr. SCOTT—And also some instruction in elementary science is very useful to explain to girls the need for ventilating a room and how to do it, why one way is successful and another is not?—Yes, but the amount of useful matter, if you are to think of all the useful things you could teach in a school you would want 24 hours a day, we must only make a selection.

16620. Of course you would only have such principles of science taught as were useful to girls in housekeeping?—Undoubtedly it would be a useful subject, if you could find time for it. I do believe though, considering the class of people that you have to provide an education for in National elementary schools, that a good substantial literary education in reading, writing and arithmetic and things connected with that, and cookery work and needlework, that that is a sufficient amount of education for the National Board to attempt, and I think the great danger of this thing would be you would lose the hobby too far.

16621. But it has been said to us that there is a difficulty in getting cooks for instance to be accurate in weighing, and that the school training should be of such a kind as to make them more accurate?—I don't think that at all, and that is not my idea of the cookery that ought to be taught in the schools, good or bad, I don't mean the Convent schools to be in apprenticeship for cooks, but it is to teach them to cook their own food I want. I want that when a poor laborer or tradesman marries a girl who has been taught in these schools that she should be able to cook his dinner when he comes home from work.

16622. I was not speaking of cookery, but of such training in schools in elementary science and drawing as would make them more accurate in their habits of working?—I don't think our girls' schools could usefully aim at anything like that, the number that would become professional cooks is very small. They are getting up in the better technical schools for cooking, and I think that minute accuracy with which a first class cook measures out things, like an apothecary,

can be got in a technical school, but not in an ordinary primary school.

16423. Professor FROSTWILL.—Is it not desirable that a person who has very little to spend should be very accurate in what he does spend, is it not more important for a poor man's wife to be more accurate than for a rich man's?—But you don't imagine that if they had only potatoes and salt for their dinner they would want a scale to measure what they cooked?

16434. But I am in hopes they would have something better than potatoes and salt?—I don't think it is practicable.

16435. I am sure it is very desirable that they should be very careful what they give their children when young and they do shod in the most extraordinary things into the infants' stomachs?—With most of our people the difficulty is to get something to cook.

16436. Mr. STRUTT.—I think I quite agree with your lordship that the cookery would be better done outside the primary school altogether, but the question is whether we might not have such a training in elementary science as would induce habits of accurate observation, and accuracy generally in the girls?—My opinion is that the game is not worth the candle, I don't think the results would be of any practical value, though I have no objection whatsoever to the teaching of elementary science matters about ventilation and things of that sort. I think girls might very usefully know them.

16437. We had it in evidence yesterday that in the English schools very good needlework can be taught in three hours a week, so that it would not be necessary to teach needlework here five hours in that case?—Yes.

16438. So that some time might be saved from the needlework?—That is a question of detail on which I can give you no information.

16439. Would you teach drawing to girls as well as to boys?—Oh, yes. I would make it as compulsory in the girls' schools as in the boys' schools.

16440. You would advocate its introduction?—Very much.

16441. I think you said you would make it a universal subject in day schools?—Yes, and encourage it as far as I can in girls' schools.

16442. What object have you in view in teaching drawing to girls?—Well, it would refine them and give them an artistic taste, it would cultivate them as after life to take a refined view of things.

16443. Would you expect anything more from it in the case of boys?—Oh, yes, for boys it is of great practical use, take a man taking out sections of a roof, a carpenter who can go to the work and get a sketch of a section of a roof is a much stronger man than a man who cannot do it.

16444. Then the teaching to the boys ought to be of a practical kind, learning plan and elevation would be much more useful than teaching free-hand?—Yes, but the free-hand in the early stages is very useful to steady the hand.

16445. Don't you think the construction of simple objects in cardboard or woodwork would illustrate what the drawing means?—I should say so; it would be very useful.

16446. And from that point of view some form of manual work, either cardboard or woodwork, would be a very useful help for drawing instruction?—I should say so, for future mechanics.

16447. Also generally, would it not?—Well, yes, but, you see, if the parents of the children generally don't see in the distance even some practical advantage you will not make it popular.

16448. You think they don't see any practical advantage at present?—None of us can form any opinion at present, because we have seen none of it.

16449. But you would not be opposed to experimenting with it?—I would be delighted to see experiments in different centres.

16450. I was rather struck with a remark your

lordship made about this woodwork. You said in towns it should be educational, but in the country it should be utilitarian?—Yes.

16460. Why do you think it should be utilitarian in the country more than in the towns?—You see their whole lives are so very simple in the country. Take a ploughman or an ordinary agricultural labourer, his whole life is so very simple, and his energies go out on so few things, it is a pity then when you are educating him not to work in a way that would be practically servicable.

16441. Is it not a good thing to enlarge his ideas?—I would do so by his literary training, and you will allow me to say with reference to that that I think there is a danger of unduly expressing the intellectual and literary training in running this thing of practical training too far. I think to teach our people to read, to encourage them to read, to think for themselves—I think that is the best thing you can do for the intellects of the country people.

16442. That is a danger that you anticipate in the future possibly, but it does not exist in practice at present?—No.

16443. In fact, do you find in the ordinary National schools, where the whole time is given to the literary programme, that the literary programme is well done?—I cannot say that.

16444. So that, even without the introduction of practical instruction, you don't have the literary programme doing very much good?—I don't like the National system at all. I consider it a very inferior system of education altogether, and so long as any system of education is worked by a bureau in Dublin, and is a custom thing for the whole of the country, it will be an inferior system.

16445. You distinguish between Slough and instruction in country?—Yes.

16446. Do you know that in Sweden, where the word Slough at all events comes in, it is more prevalent in the country districts than in towns?—I am not aware of that.

16447. And that they always make objects which are useful in the houses of the children?—That would be my idea of the proper thing to do.

16448. And for that reason the people have come to appreciate it?—That it is utilised as a means of training the intelligence of the children is accuracy of hand and eye?—I should say to have it adopted by the people it should be practical.

16449. That is the essential point, that the objects made should be such that the people can use and do use, that might be done in Ireland?—I should say so.

16450. And you would have no objection to it?—None. I should be very glad to see the thing tried, provided it was very simple.

16451. I think I gather that your idea is that you should have a very elastic system in the country that should adapt itself to the wants of the different districts, instead of having a uniform programme?—Quite so.

16452. Captain SHAW.—There was one remark made as regards text-books. Do you consider it necessary to have text-books for the teaching of all subjects, or would you think it important if some were taught without a text-book?—Well, yes, if you had very competent teachers I should say the subject would be better taught without a text-book.

16453. Is not the tendency, if you have text-books, for the inspector always to examine out of them, and you get back to the same routine that you have now?—So it is, that is one of the greatest complaints against the present system.

16454. And it would be, therefore, an improvement if some of the subjects were taught without text-books?—It would be a very desirable thing, but that would involve a thorough knowledge of the subject on the part of the teacher.

16455. Should they not have that before they begin to teach it?—Oh, decidedly, but you see just now agriculture is an obligatory subject in every

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rural National school, and a very large proportion of the teachers would tell you this: that they know absolutely nothing about it, and they say that it seems a most unreasonable thing to require them to teach what they don't know.

16656. You remark that every county should have special technical schools for agriculture?—I think so.

16657. Do you think more than one agricultural school would be necessary in a county?—Oh, yes, I should say so. If you have not more than one it will have to be a boarding-school. They will have to live in it as in a college. I think it would be a very desirable thing to have technical schools where the pupils living in their own homes could come and get instruction.

16658. Do you think they can be taught agriculture without tending for some years or more in a school?—I should think so.

16659. With regard to the two teachers whom you got, had they received a University education, do you know?—I should say not—I am pretty sure not.

16660. Could not teachers be trained at the School of Science in Dublin now?—I don't know much about that School of Science, but my remark is directed to this principle generally that the great body of the Catholic of Ireland now are cut off actually from university education, and unless you open that to them you will not have a sufficient body of highly educated men to conduct these studies.

16661. Mr. HARRINGTON.—How do you think the parents of the children would regard a change from the present rather literary programme of our National schools to the introduction of elementary science and manual instruction, do you think it would be a change that would be approved of?—I think they would like it.

16662. You mentioned, I think, that in the results of the Intermediate examinations some of the statistics showed that a very small percentage of boys went up for practical science?—I may mention to you that in 1896 only eleven boys passed in chemistry in the senior grade in all Ireland.

16663. Is it not a fact that the reason of that is that the Intermediate Board has rather discouraged the teaching of practical science?—I should rather think that it is because practical science is not easily examined. The whole Intermediate system is a system of the worst kind that was ever introduced into a country. I think it is doing more harm to the intellect of Ireland than any other thing in it.

16664. Don't you think it would help very much the introduction of practical science into the secondary schools if it were taken up on a more general scale by the National Board?—Oh, yes; you know you never can thoroughly reform any one branch of education without affecting the whole of it, you cannot settle the primary unless you co-ordinate it with the secondary education. The secondary education in Ireland now is about the most pernicious thing I ever heard of, it is the worst organized system that was ever forced on the country, and why the people stand it I cannot understand at all.

16665. Mr. MOLLON.—I think, my lord, you stated that you were in favour of local committees or associations of managers to advise, so to say, the National Board?—Yes.

16666. And give the benefit of their experience if any new ideas were about to be introduced, would you confine it to managers, or would you allow outsiders?—No, managers.

16667. And on the girls' side of education would your lordship be in favour of any associations of ladies?—You have managers for girls' schools as well as for boys' schools; managers manage all the schools.

16668. We heard yesterday of a Limerick local association that helped girls' work in schools?—I don't know of it; I have not seen it working, but I should think that the managers would be the best persons to make suggestions as to the course of studies in them.

16669. Including the course of studies for girls?—Quite so.

16670. In connection with the Intermediate Board, in the early years of that Board I believe there were associations of schoolmasters and schoolmistresses as advising bodies for the Board?—Whether they had any local status I don't know, but I think the headmasters of schools used to meet.

16671. And so they do still—these two bodies continue. Of course your lordship is aware that already in some of the dioceses in Ireland there are committees of managers instituted?—No, I am not aware of it. Of course any number of managers can come together and consult, but my point is this—that as a committee of managers they should have a recognition from the National Board, so that one could write up and say he is directed by the committee of managers of such a place to put such a view before the Board, and that the Board would recognize them as a committee.

16672. If I mistake not, some communication like that has already been received. Your lordship a while ago referred to the propriety of having ladies to inspect the schools?—I merely threw it out that the experiment might be usefully tried.

16673. Of course your lordship is aware that already there is a lady at the head of the needlework department?—Yes; an organizer, I think.

16674. A director of needlework, and there are two lady organizers, so you would be in favour of the development of that?—Quite so.

16675. As to the difficulty of getting a person from Glanavin Farm Establishment to instruct in agriculture to Limerick schools, was the reason stated the inadequacy of remuneration?—Not the slightest reference to it.

16676. As a matter of fact under the Royal Dublin Society and under the Congested Districts Board, ex-National teachers are at this moment employed in giving practical instruction in agriculture, so I am surprised that Glanavin was not able to supply you?—If you should like to see the correspondence, and have time to read it, I should be happy to put it at the disposal of the committee.

16677. Mr. BROWNE.—You made a valuable suggestion about associations of managers. Would your lordship give these associations the power of modifying the course of instruction in their districts with the consent of the National Board?—Quite so.

16678. That would to a large extent lessen the rigidity of the cast-iron system?—Quite so.

16679. With reference to the expert inspectors, do you not think that it would be an advantage that there should be an expert inspector in music, as a certain number of inspectors, at least, must necessarily have no taste for music?—Yes, I think you might fairly make an exception in that.

16680. You would not extend the exception to drawing?—Perhaps so. I think within the ordinary staff of inspectors there ought to be a sufficient number of men thoroughly competent to inspect.

16681. But each inspector looks after his own district. What I was suggesting was, that if there were a certain number of organizers or peripatetic inspectors of drawing they might go about all the schools of Ireland and give advice as to any new methods of teaching drawing?—It might be a useful thing.

16682. And the same way about science?—No. My view is that, that the object to be gained is the education of the average child in a National school: whatever subject is so elementary and simple that an ordinary child in a primary school ought to be compelled to learn it, that ought to be taught by his own ordinary teacher and examined by his own ordinary inspector, and, if it is a subject that an inspector cannot examine, or the teacher teach,

then I think it ought not to be obligatory on all the children.

16683. The inspector might be able to examine, but not be a specialist in the science, and not aware of the latest developments of science teaching, would it not be a help to him as well as the teacher if a specialist went round?—Yes, but I think it ought to be done

by its own ordinary staff. I don't like the system of specialists going into the school.

16684. I think your lordship said that there was sometimes criticism of the examination in needlework by our inspectors. Would not that be an argument in favour of specialists?—That is just the thing that made me suggest a female inspector.

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16685. CHAIRMAN.—You are the Manager of the Foyers National School, and one of the Trustees of the Limerick Endowment for Technical Education?—Yes.

16686. You have taken, I understand, a great interest in primary education, and have given evidence before the Educational Endowments Commission in favour of agricultural teaching. Will your lordship give us your views upon that matter?—I just wish to slide at the outset, my lord, to my having been connected with that body, because the Limerick Endowment for Technical Education, as to which the Bishop of Limerick has just given evidence, is also connected with it. It is principally with regard to rural schools that I wish to give evidence. I took the opportunity when the Educational Endowments Commission sat here with regard to this endowment, which was the object of an endowment for agricultural education, to urge that agriculture should be maintained as one of the main subjects in the new scheme.

16687. What was the old endowment called?—Mmagret. I need not detain the Commission upon that point, because I believe you have had evidence from the teacher whom we got—Mr. Burlytt. I believe he was before you yesterday. But in this way I have had my attention specially directed of late to the subject of the teaching of agriculture—how far agriculture can be taught in country boys' schools—and the results of those investigations have been that, if anything is to be done to teach agriculture in the country by means of special schools, as is done in most Continental and Colonial countries nowadays, some preparation must be made for that in the primary schools. And, with that object, the Trustees of the Limerick Endowment for Technical Education obtained the services of a teacher to give agricultural teaching in a group of National schools. We thought it was worth while trying the experiment how far the existing system could be made to work more efficiently with regard to the teaching of agriculture by getting a specially-trained teacher.

16688. But you came to the conclusion that the existing National school system should be modified in some way to meet this want?—Yes. I think the conclusion that we have come to so far has been that the teaching of agriculture out of a text-book, however well compiled, such as is now in use in the National schools, does not give the kind of training you wish to country boys; they simply learn things by rote, and don't bring their intelligence to bear, nor their powers of observation.

16689. That applies to other matters besides agriculture?—Well, yes, it would apply to a certain extent to other subjects as well. I was confining myself rather to the teaching of agriculture for the moment.

16690. What is your view with regard to the particular form of practical and technical instruction that should be given either in town or in country?—I don't presume to judge of town schools, as I have no experience of them; but, with regard to country schools, it appears to me that the practical instruction given should rather have a definite bearing upon agriculture, than be specially directed to the training of the hand by what is commonly called manual training, or what I understand is meant by Lloyd—that the practical training should have a definite bearing upon agriculture. It appears to me that children in the country have more opportunities of

learning to use their hands, and that that is not so important in country schools—special manual training—as it is in towns. To come a little more to detail, it appears to me that the kind of practical training you want should be specially directed—taking it that it is to have a bearing on agriculture—to train the boys to habits of observation, especially with regard to all the natural objects around them in their daily life; and should be conducted, as far as possible, not by text-books, but by object lessons.

16691. Do you think school plots would be advantageous, or would you be of the opinion that was expressed by the Bishop of Limerick that teaching the principles without any school plots would be the best plan?—I should like to have a certain amount of teaching in the schools which would bring the principles under the notice of the children, and also to have a certain amount of practical teaching that would show them the application of those principles. I don't think that a farm attached to a school or the growing of farm crops can be of any great advantage, but that school garden and small school plots, especially if conducted in a way that each boy should work a plot for himself, and should in that way learn by experience how plants are raised, would be of more advantage than a school farm.

16692. Would you allow him to earn his experience of a garden on a small plot of half an acre?—I want a plot more like the size of this table, raising vegetables on the smallest possible space, you would have one acre attached to the school, and have that divided up in the way explained to the Commission by an English inspector, Mr. Rooper.

16693. The Commission saw it done in Sweden in one place, where a master had laid out his garden in little plots and given each boy a plot; is that the sort of thing?—That is the sort of thing I had in my mind. I have not seen it tried; it was from the evidence of Mr. Rooper that I got the idea, and it seemed to me a very good one.

16694. You would not have agriculture, then, taught as an art?—Not the practice of agriculture; but I think what they learn in the schools is the way of teaching elementary science can be given a practical application in these little plots.

16695. Now, with regard to existing teachers, I suppose you think that many of them could not be expected to give this instruction, because they have not been trained in it?—Exactly.

16696. But in the case of future teachers, do you think that every teacher, before he receives a certificate, should be obliged to earn a certificate that he could teach this sort of scientific agriculture?—Yes, I think that the teachers should all qualify themselves to teach the elementary sciences bearing on agriculture.

16697. What will you do in the meanwhile until a new generation of teachers is trained?—I think in the meantime, although I agree with Dr. O'Dwyer that it is very undesirable to be in extern teachers—it is much better that the teacher should be responsible for all the teaching that is given—I think until you can train teachers to teach in these new subjects that itinerant teachers might very well be employed.

16698. How would you pay teachers for the instruction they give in scientific agriculture?—I think that it should not be based upon actual pay, the answering of children to questions put out of a

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text-book. It appears to me to be very difficult indeed to apply the results system of examinations and payments to the teaching of these practical subjects; it should be done rather by way of general inspection, which, I believe, is the custom in England.

16799. How would you think that room could be made for teaching these practical subjects, with regard to the present curriculum—in what way could it be altered or curtailed?—I don't imagine that any very great length of time would be required for the purpose. I forget what is the exact amount of time required to be given for agriculture now in fifth and sixth; I think it is three hours a week. I should fancy that ought to be sufficient.

16799. That is there already?—Yes, that is, I believe, about the time that is considered necessary in France, where they have given special attention to it.

16799. Is it your opinion that in order such as Limerick, it would be better to teach Lloyd than to teach agriculture?—I don't profess to judge of the towns, but I should not propose to teach agriculture in the towns, and I should think Lloyd would be very useful.

16799. Mr. RANSTON.—With regard to the teachers who are not at present able to teach agriculture scientifically, in what way do you think they ought best to be taught this elementary science—by attendance at Saturday lectures at local centres or by going through a course at Glasnevin?—I think for the future it ought to be given as a special course in the curriculum of the training colleges; but I think in the meantime it might be very well to form classes of teachers in different localities, as has been done in England and Scotland. Whether you would get the teachers to attend them is another matter.

16799. You might refuse to pay fees for agriculture unless they went through these classes?—I am not sure it would be quite fair to make local classes of this kind—local lectures—of such permanent importance. I don't know that you could ensure that the teaching would be sufficiently efficient.

16799. How then would you introduce your new system of teaching agriculture into the country schools?—I should propose, after a certain time, giving notice, as Dr. O'Dwyer suggested was done in France, give three years' notice, and after that time the teachers would be required to qualify themselves to teach those subjects.

16799. By what means ought they qualify themselves?—By going through a course of training.

16799. A local course of training or not?—I have not formed any opinion as to how many schools would be required for the purpose; I should think the existing schools would not be sufficient.

16799. Did you find that the boys who attended Mr. Burkitt's lectures were more interested in agriculture than before?—I am not resident in the district where this is, and I am sorry to say I have not been able to visit any of these schools where the instruction was given.

16799. I thought you were present at some examinations or lectures given by Mr. Burkitt?—Mr. Burkitt came down at my invitation to give lectures to adults in two of my villages, and I incidentally got him to talk to the boys about making collections of grasses and so forth.

16799. Did he give any practical experiments as well as lectures?—The lecture was illustrated by magic lantern pictures.

16799. Do you think that the present teaching out of a book is wholly useless?—I do, if not worse.

16799. Have you any knowledge of the system pursued in France?—No personal knowledge. I may mention in connection with the appointment of this gentleman, Mr. Burkitt, Dr. O'Dwyer was asked by Mr. Molloy what was the reason that they were not able to supply one from Glasnevin. I think Dr.

O'Dwyer did not quite understand Mr. Molloy's question in one respect; you went on to say that teachers had been sent from there to the Congested Districts Board.

16799. Mr. Molloy.—And also in connection with the Royal Dublin Society, they were chiefly ex-teachers?—But I understood it was as practical agriculturists.

16799. As practical agriculturists?—But that was not our object. We did not profess to teach practical agriculture; our teacher was to turn the text-book of the National Board, now in use, to the best account he could, and to teach that as well as he could.

16799. Mr. RANSTON.—You are aware that the course at Glasnevin lasts only eight months, and could not last longer without interfering with the dairy classes. I understand that the gentlemen you have employed have got a degree from the Durham University, and have spent at least two years in the study of agriculture; is that the case?—Yes, I believe that is so.

16799. Rev. Dr. WILSON.—Does any portion of this Mangut endowment still remain?—It is all vested in our body.

16799. What is the annual sum available?—I think it is £130 a year about.

16799. Is that applicable to agricultural purposes in the County Limerick, or to a wider extent?—It was applicable I think to technical education generally, including agriculture. I think agriculture was specially mentioned in the scheme, but it might have been applied, I believe, to other technical education. The sum was so small we thought it could hardly be broken up.

16799. I suppose it is limited chiefly to the county Limerick?—Yes to the county and city of Limerick.

16799. Mr. Molloy.—Is there a farm or school garden in connection with the schools of which your lordship is patron?—No.

16799. Have you any acquaintance with how practical farming is carried on where there is a farm or school garden in connection with a National school?—No, there is none in my neighbourhood.

16799. What superiority as it existed that Mr. Burkitt would have over a National school teacher, when he is confined almost mainly to the elucidating of a text-book?—The text-book was not of our choosing—we found the text-book there. The text-book had to be taught, it was a compulsory subject. We should much prefer to set him entirely free of the text-book, and let him give agricultural teaching on his own lines, but the teachers are bound to teach this book—it is an important subject in the results examinations, and the inspector will examine out of that book and nothing else, so if we had thrown the book aside it would have probably taken a substantial sum out of the teachers' pockets, but we thought it was worth trying the experiment whether anything could be made of the text-book, and I am afraid from what Mr. Burkitt will have probably told you yesterday that his evidence was conclusive.

16799. He also uses a text-book as well as the National school teacher, he gives a decided preference to a certain text-book, he mentioned it yesterday?—Dr. Wiseman's book, I suppose. I suppose every teacher must have a text-book to go by. I think it is rather in the inspection the point comes in whether the examination is to be conducted entirely out of that text-book.

16799. He has been only a comparatively short time here; have any examinations been held by the National Board inspector in any of the eight schools he visits on the subject of agriculture, up to the present?—I cannot answer that question, I am afraid.

16799. We might be able to compare the results with the results of previous years?—On that point I should like to say I don't think you could arrive at any decisive conclusion on the teaching of a single year, as tested by results examinations, I don't think

results examination can show the value of teaching in a subject like that.

16734. Captain SHAW.—I think you remark with reference to manual instruction that the children in the country use their hands more than the children in the town, but do they get any of that definite instruction by which the mind regulates the motion of the hand accurately, which you aim at in manual instruction?—No, I did not mean to imply that, but I think in their ordinary up-bringing they are more likely to learn the use of their hands.

16735. Will they learn the use of their hands accurately?—I did not say that, but like Dr. O'Dwyer (I think it is a question of how much education you have, you must cut your coat accordingly. It is hard enough to get them to school).

16736. Mr. STRECHER.—You depend, my lord, on special agricultural schools for the real teaching of agriculture?—For the teaching of the practice of the art or for any higher science teaching.

16737. Or for having much effect on the practical conduct of agriculture in the country?—Yes, I think it is most important that such schools should be established.

16738. But you think there ought to be some preparation in the primary school, so that the pupil might benefit by the instruction given in the higher school?—Yes.

16739. You are quite clear that that preparation is not given by the teaching in the text-book?—Yes.

16740. Do you think it is better given by miscellaneous information about agricultural subjects than by training in accuracy by drawing, or a systematic course of science involving measurement and weighing?—I should certainly wish to introduce a certain amount of science. I am not a scientific man, I don't know how far it is legitimate to employ the word "science," but what I had in my mind was more the encouragement of the study of natural history. That would promote habits of observation in children and teaching them to collect natural objects, botanizing, geologizing, and then the teacher will show the bearings of these things upon plant life and the diseases of plants.

16741. We had it put to us in the Minister Dairy School that there was a lack of accuracy, that when pupils came up to that institution they disregarded an ounce; they thought an ounce was not a matter of much importance—an ounce of salt, for instance, put into butter, and that good general intelligence on the part of pupils rather than any bits of agricultural knowledge was more important?—I would agree with that; I did not suggest that bits of agriculture should be taught, children's minds should be directed to observing things around them, and I think habits of accuracy could be taught in that way. I should imagine that accuracy could be taught in connection with the study of arithmetic.

16742. They can be taught to do the process accurately, but is not a mental calculation rather different from actually measuring out a thing materially, is not the best way to teach those things to do it mentally; is not a child more likely to calculate accurately if you get him to measure two sides of a box and then let him get the whole surface by multiplying?—I agree with you.

16743. You would approve of any form of instruction in a primary school which tended to make children more accurate?—Yes.

16744. And that might be got in drawing, for instance?—I think it is very desirable indeed that they should be taught drawing in its elementary form, especially mechanical drawing.

16745. You would have that taught in country schools?—Yes.

16746. You would not object to its practical application being shown in woodwork and cardboard work?—I should not object, but I should not suggest inserting it as a compulsory subject.

16747. If you could see that it might be some

advantage in instilling habits of accuracy on the part of the children?—Oh, yes, I think it is an advantage for everybody.

16748. You mentioned that you thought useful work might be done by object lessons; I would like to know what the idea on the subject of object lessons in this district is. For instance, we heard of an object lesson on a horse. Do you think an object lesson on a horse can be conveniently given in a school; should not the object be present during an object lesson?—Certainly.

16749. Ought not the object to be used to illustrate the things that are being taught?—Certainly.

16750. So that to tell a child that if a horse were stayed it would die of cold is not a useful thing, even during an object lesson on a horse, it is not a thing that the children could do at the time?—I should not call that an object lesson at all.

16751. Then the object lessons that you would encourage would be object lessons in which there were objects present, and children were encouraged to observe what was actually happening in the objects that were there?—Exactly.

16752. Not merely telling them promiscuous information about objects in general?—Exactly, perhaps, to illustrate the way I look at it I might instance one little experiment that Mr. Burkill conducted in one of my schools. He came over to give one of these lectures for me this summer on haymaking, and the selection of the useful grasses and the bad grasses; and I got the boys in the school who were in the fifth and sixth classes, with whom agriculture is a compulsory subject, to attend the lecture. After the lecture I asked them to bring in collections of the grasses he had mentioned in his lecture, many of which are described in their book. I don't know that any of them had been ever asked before to bring them in. Several of them made very nice collections of grasses, and were able to name the grasses and distinguish their qualities.

16753. That was a useful use of the objects?—That is what I understand by object lessons.

16754. I suppose one of the reasons why you get Mr. Burkill in addition to the ordinary teachers is that the ordinary teachers are influenced by the consideration of the results fees while Mr. Burkill is not influenced in his teaching by the prospect of results fees?—Well, we have to bear in mind the results fees. Professor Fitzgerald knows it would not have done for us to take the money out of the teacher's pocket.

16755. Does he not give teaching in addition to the teachers?—He has been giving the agricultural teaching in their schools, but he has been careful to stick to his text-book all the time; he has tried to teach it not merely by rote, but to give it a practical bearing all through.

16756. Rev. Dr. EVANS.—How long is it since you formed your present opinions of Mr. Carroll's book?—I cannot say that I have studied Mr. Carroll's book myself, I don't feel competent to judge of it. My statement was, I think, that however good your text-book, if the children are taught merely to learn the text-book by heart, and expected to finish a sentence when the inspector begins it that that is not educational.

16757. Would you not think that one like Mr. Carroll, who had been brought up in an agricultural school, who has spent all his life in connection with agricultural work, who has been some seventeen or eighteen years director of the Model Farm at Glasnevin, where he has probably had hundreds of farmers' sons coming up for a term of instruction and training there, and farmers' daughters coming up to learn dairy work and all such work, and knows how they have acted when they have gone to their homes, and applied the principles and carried out the teaching which they got at Glasnevin;—do you not think that the opinion of such a man as Mr. Carroll is far more likely to be wise and right and practical than the opinion of a young man about a year or less than

Witnessed.

Oct. 5, 1875.

The Right Hon. Lord Monaghan.

Limerick.
 Col. A. HUNT
 The Right
 Hon. Lord
 Montagu.

year in his present post!—Do you mean that Mr. Carroll's opinion of the present system in vogue or of any system of agricultural instruction is worth more than Mr. Burkitt's?

16748 I do!—Well, of course, Mr. Carroll's experience of the system gives him an enormous advantage, to say nothing of his experience in other ways, but, at the same time, of course, Mr. Carroll has been for a very long time connected with this system, and, perhaps an outsider, even though he may be young and inexperienced, if he has had actual practical experience of teaching in schools, his evidence may be of value.

16749. Some of the most eminent scientific men in Dublin lecture and carry out experiments in connection with the Model Farm under the superintendence of Mr. Carroll; he knows what is done and knows the results, so that neither as regards the theory nor the practice is Mr. Carroll likely to be misinformed!—Dr. Evans, if I may stop you for one moment, my point was that Mr. Burkitt, I think, has had a unique experience. He has been in a position, coming in as an outsider, not knowing this system, he has come in to try and conduct the teaching and see how it is pos-

sible to do that on the existing lines. I don't put it higher than that; of course he is a young man, and I don't think he is a preeminent young man as far as I have seen.

16750. I don't say he is!—But I think the fact of his having actually given instruction in primary schools and come in contact with the children gives him opinion a special value quite apart from Mr. Carroll's wider experience.

16751. As a member of the National Board, in whose schools Mr. Carroll's books are used, I am somewhat sensitive lest through the medium of the Commission they should be in any way lowered in the opinion of the teachers, or considered in any way deficient in value!—I was not criticising Professor Carroll's book or contrasting it unfavourably with Dr. Frazer's or anybody else's.

16752. Is there anything you could suggest to us by which we might be aided in introducing and carrying out manual instruction?—I have not given so much special attention to manual instruction, because I regard that as more specially adapted for the towns.

Venerable Archbishop HAMILTON, Limerick, examined.

Venerable
 Archbishop
 Hamilton.

16753. CHAIRMAN.—You are the Manager of St. Michael's mixed school?—Yes.

16754. Have you given any attention to the subject of introducing manual instruction not as a technical subject, but as a subject which tends to increase the powers of observation of children in schools?—I have, I have thought over it very often and read about it, and heard evidence given on the subject.

16755. Have you seen anything of it?—No, I am not aware of a school in which the subject has been introduced. My own idea is that we ought to bear in mind the broad distinction between subjects that are essentially necessary for every boy and for every girl to lay the foundation of general education, from which they hope to get benefit in after life, and, therefore, I think reading, writing, arithmetic, spelling, grammar and geography are essential, and it is rather dangerous, if not unwise, to try to displace those subjects as it were, and to diminish the time that should be given to them, which are necessary for all children, both boys and girls, by introducing such subjects as I have been hearing about for the last few days. Typewriting, shorthand, drawing, and so forth, a few might benefit in after life by them, but it would be at the loss of a great many whose time in the school would be shortened by the introduction of these subjects, which may or may not be useful to them.

16756. That is assuming it would be compulsory on all children, whether their parents wished it or not to learn these subjects?—Well, of course, the difficulty would then arise of setting apart time in the day for such subjects as these for a few of the boys; almost every boy would like to learn something new-fangled like this.

16757. The way this is carried out in England is this, it is necessary not only to set apart a time but a separate place in which it can be done!—That would make all the difference in the world.

16758. It cannot be done, and is not done in England in the ordinary schools!—My school is in one large room, with a certain screen, with one master, one workmistress, and two monitors.

16759. One of the difficulties in introducing the subject in country places in England that has not been overcome, is the necessity of providing a separate room!—For that reason I think these subjects could be better and more usefully learned in other places after school hours, just as other special subjects are. I think the boys would be more likely to learn them in that way, and to learn them well.

16760. I think you don't quite understand the

object that those who advocate this system have in view; they don't wish to teach woodwork for instance as a trade; their object is this, they see that the children in the ordinary literary subjects are too apt to commit things to memory, and not to think about what they are learning or to reason about it; and the particular sort of work which is called *Stoïd* work has makes it necessary for the person who has to persevere that system to think and to measure and, in the case of elementary science, which is more or less connected with chemistry, to weigh; and therefore, they must use their reasoning powers; and they think that having to learn to use their reasoning powers in connection with these subjects, they will also do so in connection with their literary subjects!—Suppose we began by carrying that out in connection with their literary studies, and allow more time to explain what they are reading, and brighten them up. I spoke to my master, and he says they have a certain number of pages to read in a certain time, and if they were to ask questions of the first boy, "What is the meaning of this?" or "Of that?" they would not be able to get half through the lesson.

16761. Do you think that a good system?—No, a very bad system.

16762. Do you think some attention in that system would be desirable?—I do. I would allow more time to the explaining of their lessons. I have heard some of our boys one day, and I think the inspector was present, Dr. Bateman, and they repeated the poem called "The Irish Emigrant," they said it very nicely, indeed, and when he asked what was the meaning of the word "emigrant" they did not know. There is not enough time allowed for explaining or using their reasoning powers, and instead of strengthening their reasoning powers by wood-carving, I would put on their arms their reasoning powers by reading. The other subjects are very important, but they are taken up after they leave school. There are such classes being formed, or ought to be formed in every town.

16763. Rev. Dr. EVANS.—Are you in favour of making the readers in schools much more simple and interesting than they used to be?—I think you might, with great advantage, have more interesting reading books, for I think the children like to be talked to about their reading. I know in the Scripture lessons they are quite glad that I should not simply ask them to read or repeat, but to try to show the arrangement of the words, and in that way they are taught grammar and composition, they are taught the

English language, and then they are taught to speak up, to use their own words, and hear their own voices. They are afraid to hear the sound of their own voices, for that the other children would laugh at them if they made a mistake, but they never get a chance now, they read and read.

16764. You are aware that it was objected against the old system of teaching that interrupting children so much for explanation, and to make them acquainted with the subject matter, interfered with the teaching of reading, and, hence, to redress that the tendency was to produce readers that were interesting, like story books, that would need no explanation, that the children could be taught reading by, and then if you want to give them instruction in science or anything else, have their science manuals?—I would rather they read badly and understood what they read than to read well and not to understand it, if that is the alternative; but I should hope, by not teaching so much grammar rules, those in favour of manual instruction wish to diminish the literary part as far as time for manual instruction, therefore, it is plain there could be time found for learning the meaning of what they are reading about.

16765. Would you be in favour of introducing elementary science?—Well, so many of my children are so young, the average attendance was 70 last quarter, and the average age is ten, half the school is too young, and the other half would be only very small boys still, and the town boys look forward to getting into some of those large establishments, the girls are all used to be dressmakers; they would like to read and write, or otherwise they could not be taken in as apprentices in any shops. They go to shops or to the railway, they don't go into the country as farmers. I have been listening to Lord Montagu's evidence, but the schools he spoke of and schools in town are quite different.

16766. I take it you would be in favour of retaining our present programme?—I am.

16767. And not in favour of disturbing it by the introduction of any other course of instruction?—There might be reasons where you have schools with two or three rooms and two or three masters, but in an ordinary school with one master and a workmaster and two monitors, and about 70 children in attendance, I don't see how manual instruction could be introduced. But I would be very glad to encourage boys to learn other things afterwards. If a girl wants to learn music she goes directly she has left school, and the same with drawing. If a boy has a taste for drawing he will learn it himself.

16768. Professor FRANKLAND.—I would like to know why you consider that geography is so much more important for children to learn than drawing or elementary science?—Because they read in books—I think the chief enjoyment of our life is reading—these children when they grow up are used to get books; we have a parish library, and distribute books every week. If they read, and never learn any geography, the interest in their reading would be very much lessened.

16769. Don't you think the interest in their reading would be very much increased if they knew a little elementary science?—I don't think they would be inclined to read scientific books.

16770. Would not elementary science enable them to understand better what they read in the books than they do now?—Of course it would help them to understand, but there is no time.

16771. Would it not be more important to leave out all the geography and put in some elementary science?—If they were reading about expeditions to the North Pole, and did not know where the North Pole was, they could not enjoy the book.

16772. Perhaps they would read something that was more instructive?—I would not attempt to discuss the question with you.

16773. Do you not think the present reading books

might be made more interesting to the children?—I do, indeed; I think that is one great point.

16774. You don't think the poetry is quite suitable; do you think it is suitable for a child of tender age to describe its heart as "woary, waiting for the May"?—No, there is always something defective about the little short poems, but there might be a collection of poems, and I think the reading books might be improved.

16775. Don't you think drawing is an important subject for children to learn who are going, a large number of them, to be craftsmen?—I was trying at this moment to call to mind—I have met a great many children who have passed through our schools, and I cannot think of anyone to whom drawing would be of use or would have helped them in life—they have got on very well. If they are to do anything, or attain anything in the way of manual instruction, they would have to devote a great deal of time to it, otherwise it would be merely playing at it; and if they devote a good deal of time to anything that comes under the head of manual instruction they must take it away from literary instruction, and defeat the purpose for which their parents sent them to school.

16776. Do you not think it would be desirable for them to measure things accurately?—We all do try and measure things accurately, do you mean by sight?

16777. No, by rulers, to be accurate about the measurement of things?—That would depend on what they became in after life.

16778. Suppose they went into shops?—Then they are taught that the first day.

16779. But they complain they cannot get them to do it, and when I get a cloak I complain I cannot get her to measure things accurately?—Out of four hours' school time, there is play half an hour, religious instruction half an hour, and they are allowed to come in up to half-past ten, and the difficulty is to get them to do the necessary things; I wish they were taught everything under the sun.

16780. Which would it be most desirable that they should learn—geography or accurate measurement?—I really think for the pleasure of life, and for the pleasure of reading, which they look forward to all their life, to know geography would be a greater pleasure to them; they don't want to be measuring all their life. They go to school to learn specially how to read, that they may add to the enjoyment of life.

16781. Do you not think accurate measurement would enable them to buy the books to read?—I am very old-fashioned, I am afraid, but I think that when a boy or a girl goes to be apprenticed, they would learn more in a month how to do things right than they would in a year in school. Suppose a boy is going to be a carpenter, and is taught manual instruction, and how to use a hammer—as a brother clergyman said to me this morning, he ought to learn how to use a hammer—I think a carpenter would teach him how to use it the very first day, whereas it might be taught wrong in school.

16782. Do you know that it is generally stated, amongst ladies especially, that unless a child learns to use its fingers accurately much younger than at fourteen or fifteen, they will never be able to use their fingers, they will all be thumbs, is not that the usual complaint?—I would not like to contradict the ladies at all.

16783. Captain SEW.—Have you had any experience of any school in which practical instruction has been given?—No, except the sewing the girls have; I wish there was something that would be as generally necessary for boys, to make a break in the day; it is a very pleasant change for the girls; I am sorry the boys have not got it.

16784. Are the boys who receive instruction in such schools less efficient in literary work than the boys in National schools in Ireland; have you compared the status and age of the children in one of the

Liverpool,

Oct. 6, 1887,

Venerable Archdeacon Hamilton,

Limerick.
Oct. 5, 1897.
Venerable
Archdeacon
Houston.

schools in London with that of children in Irish National schools, as to which is the most efficient in literary work?—The Irish boys, as a rule, are very sharp, but I have been here so many years in this one city, I have not come across many English boys; do you mean to compare the boys taught in England with the boys here?

16783. Yes, a boy of thirteen or fourteen, whether the boy taught under the English or under the Irish National system has the better literary education?—I would not like to give an opinion on that subject. I know something about the boys here, they all do very well; the boys from schools like mine go into shops or the railway, they like to call themselves clerks, they go into foundries and large establishments, as a rule they don't go to a trade; I can only think of one or two that were hopeless at school about books and went into trades, and are doing very well indeed.

16786. Is your attendance at the school regular?—The average now is seventy; the attendance, I think, is very good indeed—very regular indeed on the whole.

16787. Would you consider that any form of instruction which tended to induce the children to attend school would be useful?—After hours do you mean?

16788. No, during school hours; a large number of Irish schools complain of the irregular attendance of children when there is no compulsion?—There are so many schools here in the city, I don't think there are any children kept out in the cold as it were; I think their parents send them all to school.

16789. You think the attendance at school is sufficiently regular in Ireland?—I do, as far as my experience goes the attendance is very good.

16790. Mr. MELLIS.—Have you many pupils in your fourth, fifth, or sixth classes, which constitute your senior division of the school?—Yes, we have a good many boys; two or three have just gone up to Dublin to the training college there for schoolmasters.

16791. I mean out of the average of seventy how many would constitute your senior division?—I don't think there are more than four or five boys over fourteen or fifteen; they are very anxious to get out into the world, and in a town there are so many occupations in the shops.

16792. Would you advocate, Archdeacon, the propriety of increasing the school hours each day; you referred a while ago to the fact that the people come in sometimes after half-past ten; is not that very late for city boys?—They ought not to be marked if they do, the school is from ten to three, and there is half an hour recreation and half an hour's religious instruction.

16793. If the school-roll was marked at ten o'clock, do you think there would be a better attendance, and the children get more instruction, they come in at half-past ten chiefly because they know the roll will not be called until eleven?—I think myself that the roll ought to be called rather than that. I was under the impression the roll was called at half-past ten. I think the stain on the boys is enough.

16794. Of course the roll call is not later than eleven, but, as a matter of fact, it might be called at ten o'clock or a quarter past?—I think it ought to be called. I know that at the school I was at myself if

you came in a quarter of an hour late you would not get a good mark.

16795. You referred to reading as being very badly taught—mere reading, the repetition of the words before the eyes, and no intelligence?—Yes, of course one must make allowances. We know the children know more than they are willing to express; there is great shyness, and that may be overcome if they were encouraged to talk about the things, and the teacher drew them out; but at present I think there is too much mere reading, and no opportunity given to the child to explain what he knows.

16796. How do you account for no time being given to the child?—The time comes to an end, and they have to go to something else; there is a fixed programme.

16797. Reading for every class includes under the Commissioners' system acquaintance with the meaning of words and phrases, and with the subject-matter of the lesson read, and it is expected the teacher will explain the meaning?—Children will not speak. I have got big boys up at the barrows, good big drivers, and others—I have to go to them every week—they are almost dumb, too; but I think they ought to be encouraged and made to understand what they are reading.

16798. Is it something more than an encouragement—I am not advocating the propriety of rewards for—but supposing in the fee for reading was included the obligation to explain the matter read, would not that be important?—It would.

16799. I am happy to say that in the regulation in force just now, henceforward the fee for reading will involve the necessity of careful explanation?—I know if I was asked to examine a class in reading I certainly would parse now and then to find out do they know the meaning of a word now and again.

16800. You do not approve of the National Board series of readers at present?—I don't wish to be understood as finding fault, but I think there might be some freshening up of them, or they might read in some book not on the list at all.

16801. Of course you are aware as an experienced manager that it is quite open to you to submit any series of books, and, if those were found not to contain objectionable matter, they would be recognised for use in your school?—I was not aware of that. I had schools in other parishes in the city that were not under the National Board. I thought it was all fixed, and nothing could be altered.

16802. You are absolutely Lord Paramount, provided there is no objectionable matter in the series you select?—I am much obliged to you.

16803. Rev. Dr. WILSON.—How many schools in Limerick have you?—You mean under the National Board, only three—Villiers' School and my own and St. Mundin's.

16804. What other schools are there in Limerick that are not under the National Board?—There is one school in St. John's parish.

16805. Is that a Church Education School?—No it is not under any system, it was endowed by a Mrs. Westropp; it is the Parochial School of St. John's. I had it for fourteen years under my management—a small school.

gotten. Of course I have no experience; that is only an opinion of my own.

16806. Well, are you in favour of the teaching of kindergarten in the schools or are you not?—I am, of course, strongly in favour. I believe the children in the infant school are kept too long in the first book. For instance, if they come to school at three or four, they may spend two or three years in that section of the book, and when they come to me I believe the memory is over-weighted with little facts;

Mr. William
Houston

Mr. WILLIAM DUNLAP, Teacher, Shanagolden National School, County Limerick, examined.

16806. Rev. Dr. EVANS.—You are the Principal of Shanagolden Male National School?—Yes.

16807. Will you favour the Commission with your views on the kindergarten system?—Well, I must say that I have never seen a lesson taught in kindergarten but once, and I have never forgotten. Some years ago a teacher who had returned from a training course in Marlborough-street gave a lesson to the children in first and second class in my school, and the interest created by that lesson I have not for-

and I believe the power of observation would be increased if the kindergarten system was taught.

16808. You have some opinions with regard to the mode of examination in agriculture, what are they?—The work we use is called "Practical Farming," but every examination that has been conducted in my school has been one in theory. I never saw a practical examination in agriculture but once, and that was by a gentleman connected with some technical institute in this city. Lord Montagu described for you the manner in which the examination was conducted, and I believe it had a very good effect in this way: that it made the boys actually go through the fields since and gather new specimens of grasses.

16810. You think the present system of examination in agriculture is not suited to this district?—I do not think it is at all, a boy has to answer in the words of another man actually what he does himself. For instance, a little boy—85 per cent. of the boys attending my school are either the sons of farmers or labourers, or of parents in some way connected with land or cattle—well, since the introduction of the co-operative movement in Limerick the boys of the fourth, fifth, and sixth classes can milk cows very well, they can do the work in the fields for their parents, they can weed and thin out the turnip plants; in fact they do most of the after-cultivation of the fields for their parents, and the farmers of Shinnagolden are very respectable, intelligent, honest, hard-working men. When I tell you that the pupils come from two divisions of the Rathkeale Union, Shanil, and Shinnagolden, and the valuation of these two divisions is 25,909, the poor rate and county cess amounts to 6s. 8d. in the pound, and with these burdens on them they are most intelligent, industrious, hard-working men, and they could not be what they are if they were not intelligent. The children assist the parents in performing these operations. But I find when they are examined by the Inspector they cannot describe in the words of the late Mr. Baldwin's book or of Professor Cardell's book, they cannot describe what they are doing. I have never seen them practically examined. May I give an instance to this Commission? Some years ago the Inspector of the district was examining a class of boys in second stage of fifth, and he asked a boy to tell him how a farm of bottom should be sowed and ploughed, and fitted out for the market; the boy was unable to answer, and I, as a very humble manner, interposed, and said, "I assure you, sir, that the best butter making the Limerick market is made in that boy's father's dairy, and although he knows all about it he cannot answer." The boy in that case got a cypsel in agriculture. Another instance, I was going through the fields in the summer time of this year, and I saw a boy sixteen years old, who had left school, perhaps, two years before that, he was working on his father's land, with a plough and a pair of horses. He had turned the furrow with the accuracy of a skilled workman, I mean the dividing line between two furrows of land. I was glad to see the boy such a good labourer, but on referring to his school history, I found by the register that although he had gone through all the classes, from fourth up, he never yet got a mark in agriculture. They may be good practical farmers, and assist their parents, but they very often fail in theory.

16811. How would you suggest an examination in agriculture should be conducted?—That a school garden or hula farm be attached to every school, and make the boys perform exactly the operations with their spade and plough, or to weed out the plants in the presence of the inspector.

16812. You think in large towns and cities the pupils should receive some manual instruction, why there, rather than in the country?—I believe, with the country boys, 85 per cent. are engaged in agricultural operations where their hands are employed for the greater part of the day, whereas in large towns I believe there is a great deal of idleness in the evenings. If you pass through a town or a village in

Ireland in the evenings you will find a great deal of idleness, and I think that evening schools should be established, in order to give those an opportunity of being taught some sort of manual work.

16813. Will you briefly indicate the good work that is being done in the Glin School?—I visited that school on two or three occasions; the children there attend school, perhaps, 300 times in the year; they go to school in the forenoon and afternoon, and they are divided into sections. Each section is employed at something useful; that was my observation.

16814. What is your opinion of the results system of examination?—The results system of examination in my opinion is only suited to schools where education is compulsory. The results year in my school ended on the 31st of May of this year; of the number of pupils on the rolls 40 per cent. made less than 100 attendances, 46 per cent. made less than 150 attendances, and only 14 per cent. made between 150 and 200 attendances. I should say that there was a special difficulty, because owing to an epidemic or some kind of intermittent form of illness, the percentage of attendance to the number on the rolls did not reach 50 during four months previous to the result examinations, but it made no difference, the examination was a critical. The sickly or debilitated boy who came to school after he was ill, and attended only 100 or 101 days, had to stand the same examination as the boy who attended 200 days.

16815. You think the course in grammar is too extended?—Decidedly.

16816. Whether would you shorten the course or modify the teaching?—It is impossible, or at all events, it is difficult and painful for children of eight or nine to remember the parts of speech. In the fourth class the conjugation is the simple tenses of the irregular verbs is very difficult, the parsing in the fifth, and stage, is very difficult, but I think the examination of a boy in the sixth class is more difficult than it ought to be. I think if a boy can write a letter correctly, grammatically, and intelligently, that the examination that he is put to is too severe. And if the Commission have no objection I will give the exercises the boys in the sixth class got at the last examination. It certainly is a very difficult one, I mean words detached from the sentences, the most difficult perhaps in the lesson-book.

16817. Rev. Dr. Wmsos.—With regard to these evening schools that you would recommend in country places, would it not be very difficult to get young children to come on dark nights?—I did not intend that children of a young age should come, it is my opinion that the Legislature should compel children to attend school in the daytime, but there are cases—there are many, for instance, in my own locality—where, if you made education compulsory, the Compulsory Act would press very severely on small farmers and labourers, but if you made some sort of a sliding scale, by which you could compel them at least to attend 100 days, and then the grown boys, when they go to work, to bring them to an evening school, as we had long ago. I remember twenty-five years ago, when I was teaching in another county, the grown boys who had left school came back to the evening school again.

16818. As to results fees, I sympathise with an inspector when he is examining a school. Can he alter his questions to suit children that have been 100 days in attendance from questions to suit those who have been 200 or 150? must he not put the same questions to all?—I say nothing about the inspection, it is the system I find fault with. The inspector's duty is laid out for him, and very honorable and upright gentlemen they are. I presume they have no option but to examine all the boys in the same manner.

16819. I don't see how results fees can be awarded except by the same questions to all in the school, and if less than 100 days in attendance, they should try to make up for that by private study?—I think it is impossible to make a boy learn as much in 100 days as he could in 200 days, and I think it is very bad to punish

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a teacher, and deprive him of his results fees, because he cannot cram the same quantity of knowledge into a boy.

16820. The only remedy for that, I think, is to alter the whole system about the result fees, because you must always calculate for richness and expenditure, would you not be in favour of any modification of result fees, or the doing away with them altogether?—Well, I would not, as a teacher, like to give an opinion; all I know is, that I feel it is not a just name of payment for the services which we perform, but the question is too much for me.

16821. Mr. STOUTER.—You have not formed any opinion as to how the system may be improved?—No.

16822. Mr. MONTAGU.—Would you kindly describe the school in which you are head master, I mean, as regards its attendance, and where it is situated?—Shanagolden is a village of about 400 inhabitants, purely agricultural, very much adapted to the dairy industry, in fact, we have one of the largest creameries in Limerick in the village. The industry is confined principally to dairy business, the land was, at one time, wheat-growing, but now the dairy industry is the principal industry of the people.

16823. And that you describe as eminently successful?—Oh, very.

16824. By whom is that carried out?—It is a co-operative creamery.

16825. A good many young persons connected with it, I presume?—Oh, yes. I may tell you that it has given employment to some of the young people.

16826. Where did these young people, who are now so successful at work in the creamery, receive their primary education?—In Shanagolden.

16827. Then the course must have been efficacious?—Two of the boys have turned out successful creamery managers already, and others are in preparation; one is in Tipperary and the other in Londonderry.

16828. There is no school garden attached to your school?—No. I have a little farm myself, but it is attached to my residence, and it is not in the same township as the school.

16829. How many school hours have you?—Five.

16830. That includes religious instruction and time for recreation?—Yes.

16831. That leaves the minimum of four hours net?—Yes.

16832. Was it not the custom some years ago, especially in rural parts of Limerick, to have the school hours much longer than that?—I assure you there are times, particularly when young people are harvesting, that no teacher can do his duty without keeping the children a little longer than the specified time; we often have to do that.

16833. You are in favour of night schools, and a member of the Commission pointed out the difficulty of attending night schools. Would you favour continuation schools, that is, after the ordinary school hours, from four to six?—I don't think you could keep the children in; what I advocate is, that boys who go to work, farmers' and labourers' sons, who do not attend school at all in the day time, should be brought in and receive instruction in the evening schools.

16834. Why is there not a night school in Shanagolden?—I don't know. There was a night school before I came there, I am eighteen years there, but I think the great for night schools was withdrawn by the Commissioners a great many years ago. I think there was a small grant of £6, or something—it is a great many years ago.

16835. If the grants were financially of a satisfactory kind would you advocate the establishment of a great many night schools?—Yes.

16836. I am sorry to say we have very few of them, and the number is decreasing instead of increasing. Many years ago there were more. In one district alone, B-fleet, there were twenty-seven night schools in one district, but we have only thirty-five for all Ire-

land at present. You are in favour of elementary schools in rural as well as in town schools?—Yes.

16837. What subjects of science have you under instruction?—Euclid and algebra.

16838. No experimental sciences?—No.

16839. In connection with the dairy, where did the boys who are now so successful in working it get the practical instruction?—Of course their farms are good dairy farms, and any of the boys who intend to follow up the office of creamery managers come into the creamery, and acquire a practical knowledge of it, then, of course, they are sent away to Glanville under Professor Carroll, to be trained.

16840. Have you thought out any particular subjects that might be curtailed in the present school curriculum with a view to the introduction of others?—I believe the arithmetic in the higher classes certainly might be curtailed, and instead of those exercises that are given to boys in the sixth class, there are six exercises in what the little boys call a card of sums, and we often find in these "insert two geometrical means between two numbers" and the transference of solids.

16841. Complicated problems in arithmetic, what would you substitute for them?—Exercises in measurement, plain figures, or simple solids. I believe farmers' sons require to measure every hour of their life, from arick of turf to a heap of stones, they would acquire a knowledge of measurement. I can remember forty years ago old Thompson's Arithmetic had a valuable chapter on measurement.

16842. In drawing taught in your school?—I have a certificate for drawing and I intend to introduce it. I am doing it in a tentative way at home, the school furniture is not very well adapted for it, and I give some of the boys who have a taste for it a lesson in my own house.

16843. Then may I summarise your views as that that you advocate the propriety of introducing drawing, elementary science, and some approach to manual instruction, at least allowing it to be optional in such a school as yours?—Something practical. I could not say what would suit my locality, but something tending to make good butter or to tilling the land better.

16844. A near approach to a school farm?—Presumably.

16845. Mr. STOUTER.—I suppose you think that anything in the way of practical instruction had better be given in these evening schools, if you had evening schools?—I think that would be the time and place to give it.

16846. When pupils had gone through their school day?—Yes.

16847. So that the day programme should not be overloaded and the children's minds distracted?—They have too much to do.

16848. Such subjects as typewriting and so on you would have in the evening classes?—Yes.

16849. More advanced arithmetic possibly?—Yes.

16850. But you would still retain in the day schools such a subject as needlework for the girls, if it were a mixed school?—Certainly.

16851. And also drawing?—Yes.

16852. For what purpose would you teach drawing in a day school?—That if the boys become workmen they would turn out good ones, and it would be very well for a boy to be able with his fingers to indicate what he has in his mind, the distinction between the Bates' and the Booth's shortleaves, Mr. Carroll gives a description of these breeds of cattle, and one of the questions that might be put by an inspector in such a locality as Shanagolden is what is the distinction between a Bates' and a Booth's shortleaves. I found a difficulty in making a small boy understand that unless I drew them on a board with chalk.

16853. What advantage do you think drawing would be to the pupil?—It would make him a better workman and a better mechanic.

16854. Suppose he is not going to be a mechanic?—I think it will be an intellectual enjoyment to him.

16855. That would depend on the kind of drawing taught?—Yes.

16856. Do you think freehand drawing—copying an example from the flat—has much effect in that direction?—I believe it has, because if a boy can copy from the flat I believe in after-life, when the copy is taken away, if he sees an object he is better able to apprehend its size, shape and dimensions.

16857. The examples he copies are generally very elaborate ornaments, such as he may never see in life afterwards; would it not be better to have a drawing more distinctly relating to objects than that?—Yes.

16858. Would it not be more useful to teach a boy if he is going into a trade, so that he should be able to draw from plan and elevation?—I cannot go so far.

16859. Perhaps you have no knowledge of that kind of drawing yourself?—No, freehand drawing only; I cannot give you an opinion on that.

16860. Do you say you are in favour of some manual instruction in the schools?—Certainly.

16861. With what object again?—First, to keep the boys employed, and, secondly, to fit them for the battle of life.

16862. Do you think that would make them more handy and intelligent?—Certainly.

16863. You spoke about examining in practical subjects, such as gardening, you thought that the inspector ought to see the boy dig in the garden, and see that he handled the spade properly?—Certainly. If I go through any portion of the County Limerick and I want to know in the springtime of the year whether a farmer is successful or not, I see if his first ploughing of the land is good and deep, because good deep ploughing is the foundation of tillage husbandry. If he does that well I come to the conclusion he is a good farmer.

16864. Would you teach the boy to dig in the school garden?—Certainly. Boys that are intended to be farmers, from the constant practice of assisting their parents, become stiffed workmen.

16865. Then why teach them to dig in the school garden?—There are many boys that are not going to be farmers, and I think it would be a healthy exercise for them.

16866. Then it is for the benefit of those who are not going to be farmers you would have them digging in the school garden?—Certainly, at the present moment the country is studded with labourers' cottages, and when the labourers have to walk long distances to work for farmers it would be very well for the little boys, if they could in the evenings, or say, on Saturdays, use a spade on their father's land, and save the hire of a man.

16867. But I thought you said the majority of those boys are taught by their parents at home to dig?—I really believe they acquire it without being taught.

16868. If that is the case what is the use of providing a school garden to teach boys something they can do already?—I think it would be a most healthy occupation, in the first place, and I believe it could be made a model to all the other gardens in the district.

16869. Would it be more healthy than playing?—It may or may not.

16870. Do you think it would be advisable to spend large sums of money for the instruction of these children in school gardens for something they could learn at home perfectly well?—No, I do not think it would. The expenditure of money on a school garden could not be very great—an acre of land.

16871. Not on one school garden, but on many throughout Ireland, it may come to a considerable sum, and it would be paying for instructing boys in a thing they can already do, or, at least, learn from their parents?—I think it would pay still; if these boys emigrated, they would be better workmen.

16872. You mentioned about the case of a boy who could not answer about the proper packing of butter, though he knew it practically already?—Possibly the boy had read actually the words of Mr. Baldwin's book, but could not repeat them again. If an inspector is examining little girls in the industrial programme, he does not ask them how to cut out an article of dress, or darn a stocking, but they have to do the work in his presence.

16873. You would not propose that the inspector should bring a firkin of butter into the school, and get the boy to pack it for him?—No.

16874. Then how is the inspector to ascertain whether the boy knows?—My point is that the boy did know, but could not repeat it.

16875. Then how is the inspector to know that?—Quite right, and then judgment goes by default. A boy often fails in agriculture in my school, and I know he can actually do the thing, but he cannot describe it in words.

16876. How is the inspector to know that this boy can actually do it, except he tells him?—Certainly not.

16877. Then do you not think that there is a want of intelligence in the boy who is not able to describe some simple occupation that he actually has done. If a boy is able to pack a firkin of butter an intelligent boy can tell how he did it?—There may be a want of intelligence, but there is also nervousness that would prevent a boy from answering.

16878. That would apply to any other subject just as well as agriculture?—Yes.

16879. Rev. Dr. WILSON.—You say the poor-rate and county cess are 4s. 8d. in the £. How much of that would be poor-rate?—4s.

16880. Would that be an average poor-rate?—On one division at all events it is 4s., it was 4s. 6d. last year. I only need it for the purpose of showing that the farmers must be an intelligent body of men, they have to make the most of their opportunities, in order to live and support their families.

16881. Mr. SHERIDAN.—Those boys who afterwards become creamery managers, did they receive instruction in the Munster Dairy School, or Glanerin?—Glanerin; but they had a good practical knowledge of the matter before they went there.

Limerick.

Oct. 6, 1887

Mr. William Driscoll.

Galway
Oct. 6, 1897

THIRTY-EIGHTH PUBLIC SITTING.—WEDNESDAY, OCTOBER 6TH, 1897.

AT 3.30 O'CLOCK, P.M.,

At the Railway Hotel, Galway.

Present:—THE RIGHT HON. THE EARL OF BELMORE, G.C.M.G., in the Chair; THE RIGHT HON. C. T. RESNAY, M.A.; THE RIGHT REV. MONSEIGNER MOLLOY, D.D., D.S.C.; REV. HENRY EVANS, D.D.; REV. HAMILTON WILSON, D.D.; PROFESSOR G. F. FITZGERALD, F.R.C.D.; STANLEY HARRINGTON, Esq., F.A.; W. R. J. MOLLOY, Esq.; CAPTAIN T. B. SHAW; and J. STRUTHERS, Esq., F.A.;

with J. D. DALY, Esq., M.A., Secretary.

REV. P. LALLY, F.R., Hon. Secretary, Galway Technical School, examined.

Rev. P. Lally,
F.R.

16882. CHAIRMAN.—Father Lally, I believe that you have started a technical school in Galway?—Well, I have acted as honorary secretary of the committee that has started a technical school in Galway since January, 1883.

16883. And you have given considerable attention to the question of manual work and what is called Sloyd work?—A good deal of attention.

16884. Will you give the Commission your ideas as to the best means of introducing that sort of teaching into National schools?—Well, to begin with it would be necessary, to my mind, to get efficient teachers. I don't think the teachers at present are capable of undertaking the work, and my notion is that a central place should be started where teachers could be trained, and properly trained, to impart manual instruction and general practical instruction in National schools.

16885. Could not that be done in the training colleges?—I suppose it could be done, but it is not done.

16886. It is supposed to be done in Marlborough-street at present?—Well, there is no evidence of its efficiency in the teachers, the teachers have not become very proficient in consequence of the knowledge acquired there; it is very difficult to get teachers in this country to impart technical instruction. I had to go myself to London several times in order to get a man; I could not even in Dublin get a competent man.

16887. That is for technical education properly so-called?—Yes.

16888. But for the manual instruction leading up to Sloyd work, which we distinguish from technical instruction, there is a class in Marlborough-street; don't you think if a class were instituted at Drumcondra and De La Salle, that would be a way to train teachers?—Of course it would be a very good way, but I am only speaking of the fact as it stands at present, that in the country the teachers are not trained, and the practical instruction given in the schools at present does not amount to much, because the teachers are not proficient in the particular branch.

16889. Would you give a little more in detail what your idea is with regard to starting a training college?—My idea is that in Galway, which is the capital of the province, there should be a college where teachers could be trained.

16890. For the province?—The teachers could be trained in Galway and sent to work in the country, say in a five mile radius from the town. I was often thinking that the Model School would be a capital place for training of that kind, where agriculturists could be practically taught, because the fields adjoining the Model School could be easily got, and agriculturists could be practically taught there.

16891. But with regard to woodwork?—With regard to woodwork teachers could be trained there, also, who would go to the country.

16892. If you had one in Galway, that would involve having one in every county in Ireland?—No, I say Galway as a centre for the province of Connaught.

16893. With regard to procuring appliances, benches, and a building in which to carry on the work, because I suppose we may take it for granted that, as in England, it would be necessary to have the work carried on in a separate building. What scheme would you suggest for that?—My notion is that in a place like Galway the proper thing would be to have a centre where the children could come after the school day, say the Technical Institute here, which is working pretty well. If the children would come at stated times and receive instruction from our qualified teachers that would not interfere with the literary instruction of the day.

16894. Yours is a technical school, not a National school?—Yes.

16895. And you would suggest that the children of the National schools of all denominations should come into your technical school?—Yes, after school hours.

16896. And it should be something quite distinct from the literary work?—Yes.

16897. Or from the National Board?—Well, the National Board could exercise control over it.

16898. They have no control over the technical school?—They have practically, because the Model school is there and they have allowed as two or three rooms to work in there. A good number of the children in the town have already come to our schools and have been very well instructed. I hold here some certificates that the children have received from the Guilds and City of London Institute, because we are working in connection with that Institute as well as with the Science and Art Department.

16899. How would you propose that the cost of appliances should be provided?—The two local authorities, the Urban and the Sanitary Local Authority have levied a rate on the union, and that amounts to about £276, it is laid in the £, and the Science and Art Department gives us a corresponding sum, and with this money we have purchased all the necessary appliances and all the materials for imparting instruction of this nature.

16900. That would, of course, be sufficient for Galway, but how would you carry the same sort of thing out in places that were too far from Galway for the children to avail themselves of your school?—I would have Galway as a centre from which our teachers could go as peripatetics, say five or six miles from the town.

16901. But your school was to be a centre for the province of Connaught. How would you do it?—To train teachers in Galway.

16902. But when the teachers come to teach would you suggest they should go as peripatetic teachers round the provinces to different schools?—To different centres, yes.

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Rev. F. Lally,
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16098. You would not suggest that there should be practical classes attached to every school?—I would have a centre, at all events, where the teachers would be trained.

16099. I am talking of the children?—They could be taken to a small centre in other towns, and used as peripatetic in the same way as I suggest in Galway.

16100. You would confine that to towns?—Yes, and to National schools within a radius of five miles from the town.

16101. Would a good many of the National schools be near enough to a town of some sort large enough to be a centre?—I think they would in most cases. Our committee, then, for cookery and laundry and other subjects supply all the materials, and we have all the proper appliances for imparting the knowledge.

16102. How would you provide those appliances and materials in small schools?—I think if the local authority in small places act as the local authority in Galway have acted, and levy a rate under the Technical Education Act, and be well subsidised by the Commissioners of National Education, the matter would work well.

16103. Do you think there would be much opposition to that on the part of the ratepayers?—The ratepayers, of course, oppose it, but their opposition is mild. They are always in hope that some legislation will come to relieve them of the burden, but still, as a sacrifice to themselves, they have done it for five years in Galway.

16104. To what do you ascribe the comparative failure of the industrial programme in the schools?—To the inefficiency of the teachers. They have never been trained themselves.

16105. To what subjects do you allude?—I allude to cookery, dressmaking, and needlework.

16106. Do you think that where it has been taken up it has failed?—I think the knowledge imparted would not amount to much. I think it is all important that the teacher of cookery would be well qualified, and have passed through the necessary training and have the necessary certificates.

16107. Are there many places in the County Galway, to your knowledge, where it has been attempted to teach cookery?—Well, there are a good many places.

16108. You think it has not been successful?—I don't think it has been successful at all; for instance, the National Board appointed four very competent teachers, and one actually worked in Galway for a considerable time, and her experience was that she was not supplied with the proper materials, and, secondly, had not the appliances.

16109. Whose fault was that?—I suppose the managers did not provide the materials. The whole burden rested on them, except in the case of the Model School, where the Commissioners provided it all.

16110. Mr. Ramsdell.—The rate that you speak of is levied off the whole union?—It is levied off the union at large.

16111. Is any technical instruction given in the rural parts of the union?—Well, it is not given as yet, but we made an attempt to give it. We were teaching woollen weaving here, and our instructor in weaving was supposed to go as a peripatetic to the country villages, and we took a great deal of trouble to ascertain from the guardians whether they required his services, but they seemed not to want him except in one particular parish.

16112. At present, then, the rate is levied off the whole union for the benefit of the city of Galway?—That is the way it stands at present, but it is not the way we hope it to be. We purpose having a teacher of agriculture to send as a peripatetic to teach the farmers and to teach the children in the schools. We are anxious even that the grown-up people would benefit by the instruction imparted in our schools, because they are the ratepayers.

16113. Are you in favour of a peripatetic teacher of

agriculture going to a school and teaching the pupils?—I think so, because the teachers are not qualified.

16114. Would that be a better system than to make the teacher qualified?—I think the best system is to get a fully qualified man, who will devote all his attention to agriculture.

16115. And go from school to school?—And go from school to school as a peripatetic.

16116. Would there be any objection on the part of the teachers to letting him teach in their schools?—I think they would gladly welcome him.

16117. Would they not lose the fees for agriculture?—I suppose they would lose fees, but the subject is not taught.

16118. I understood you to say that you wish the Model School to be turned into a technical school where agriculture might be taught?—Practically.

16119. If the teachers came up for a course of agriculture there, would they not be able to teach in it in their schools afterwards?—Well, of course they would, but until that comes—

16120. Then you think that employing a peripatetic teacher is merely a preparatory arrangement until the ordinary teachers become qualified?—Yes, until they become fully qualified, but, considering the time they have to devote to literary subjects, I think it would be a considerable time before they become qualified.

16121. Do you approve of the present programme for agriculture?—It is very good for the teachers, but I don't believe the children benefit by it. I think the teachers who go in for teaching agriculture should know it practically, and have a practical knowledge of it more than is derived from a text-book. Knowledge from a text-book alone is not sufficient.

16122. But you are in favour of teaching the principles of agriculture in the schools?—I am.

16123. It has been suggested that elementary chemistry and elementary physics might be taught, and not the details of farming processes. Have you thought out that alternative scheme?—No, but I am just merely relating to you my experience of a conversation I had with the teachers, and they believe themselves that the subject is not efficiently taught unless the teachers know it practically themselves—that is, from the actual practical knowledge acquired on the farm.

16124. But you want the teachers to become practical farmers?—To know the processes.

16125. To know the processes of agriculture, just as a steward might?—Yes, the teachers themselves tell me, a good many that I have met, that that would be very useful.

16126. Could that ever be fully instilled into the minds of children of twelve or thirteen years of age. Might not that come later on in a special agricultural college?—Yes, but I don't think it does come later on.

16127. I should like to know what you wish to see carried out?—I would wish that the centre I suggest would have a farm where agriculture would be taught practically, and that the teachers would come in there and see the processes.

16128. And when they go back to their schools?—Impart that knowledge to the children.

16129. And do you think that the children are capable of benefiting much by it?—They are not benefiting much by the present system.

16130. But you have not considered the question of doing away with the teaching of agriculture in Primary schools and substituting practical science?—No, I have not.

16131. Do you think that cookery could be taught in every rural school if the teacher had gone through a short course at a training college?—Well, I don't think it will be efficiently taught. I think the course with a qualified teacher, such as we have at the technical school is a necessity. It is a very service course. They have to go through all the processes.

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16937. You don't think a course of six weeks at some centre would be sufficient?—I don't believe it would be sufficient to qualify a teacher.

16938. For the merely elementary cookery necessary in rural schools?—It would be a good thing, but I think it would be better to have a fully qualified teacher.

16939. Have you considered the immense expense of having fully qualified teachers all over the country?—I suggest each teacher from the school should go to a radius of five miles.

16940. What would happen the schools beyond the five miles radius?—Well, make some larger provision for that or say ten miles. If the matter is to be taught at all I would have it taught well and efficiently.

16941. CHAIRMAN.—It was suggested to us, yesterday, I think by the Bishop of Limerick, that what was desirable was not that the children should be taught to be cooks, but that they should be taught the principles of cooking, as as to be able to cook food for their husbands when they became wives?—I think that is quite fair enough. Of course those who wish to qualify for being cooks can go further, but for the teaching of the National system that is quite enough.

16942. Mr. RUSSELL.—Is it necessary for that purpose to have such highly qualified teachers of cookery as those now employed by the Board?—I think some way or another they understand best how to teach it and proceed about it.

16943. Now, as regards woodwork. Woodwork is not taught in any National school in this city?—Not in this city. The only place outside Galway where it is taught is Cashel.

16944. Have you any classes in woodwork at the Technical Institute?—We have.

16945. Could you tell us what kind of woodwork they do?—They have prepared models.

16946. With a view to become carpenters?—Well, some did become carpenters actually from our school. And then there is the puzzling of floors.

16947. Are you acquainted with the system of woodwork that is in operation in some large English cities?—Well, I visited all the polytechnical institutes in London.

16948. But you have not seen any of the woodwork centres in connection with the board schools in Liverpool or London?—No, I have not seen those schools.

16949. Of course you know that the kind of woodwork introduced into the English elementary schools is much simpler than you have been outlining?—They commence with us with very simple things—to make knifeboards, and small pencils, and benches, and chimney boards, and they advance to the other work.

16950. Is there any subject which you think might be omitted from the present programme in order to introduce manual work? I would not like to interfere with the present literary programme in the National schools at all. My notion would be that after the school work and the literary work of the day would be the time for practical training.

16951. And would not the children be tired after the school?—After an hour or two. Two hours after the school had been over.

16952. How could you carry that out in rural districts, particularly in winter?—I would make special provision for the rural districts. After school they might remain for another hour.

16953. CHAIRMAN.—Would not that interfere with their getting food? They don't get dinner at rural schools?—In most of the rural schools, especially preparing for examination, they work from three to four in the afternoon.

16954. Then you would shorten some of that extra work?—I think the time allowed by the Board's rules is up to 3 o'clock.

16955. MESSRS. MULLER.—I think it would help us, Father Lally, if you gave us a short account of the first foundation of your school, and its history up to

the present time. When was it founded?—In January, 1893.

16956. What was the object in view of those who founded it?—The object in view was to impart the practical and manual training.

16957. To what class of pupils?—To all who should come within our reach. We were anxious that the children of the advanced classes in the National schools would benefit as much as possible by our teaching.

16958. Did you propose to teach adults?—We did, and we have.

16959. Then your pupils would consist to some extent of adults, and to some extent of the advanced pupils of the National schools?—What we proposed last year to do was to have a class in the evening at 8 o'clock for the children in the sixth class of the National schools. We did form a class, and it was largely attended for some time, but my experience afterwards was that the teachers were all in opposition against us, because they thought the children coming there interfered with the preparation for the weekly examination—the home lessons.

16960. What subjects did you propose to teach?—For girls, cookery, and laundry, and dressmaking, and for boys manual woodwork, and girls and boys, type writing and shorthand.

16961. And not agriculture?—No, but our anxiety is to get a fully-qualified teacher of agriculture, whom we would send as a permanent to country villages, and to teach in the towns as well.

16962. Did you propose to teach elementary science?—We have been teaching elementary science in connection with the Department of Science and Art.

16963. Then, practically, your purpose was to establish a school in which you would teach the whole range of what are usually called technical subjects?—Yes, that was our purpose and anxiety.

16964. For boys, woodwork, agriculture, and elementary science; would you teach drawing?—Oh, yes, we have had a fully qualified teacher of drawing.

16965. And for girls, needlework, dressmaking, laundry, and cooking?—Yes.

16966. Will you give us an idea of how far your purpose has been carried out, up to the present time?—First, how many pupils have you actually in the school at present?—We are only just after opening, I could not say.

16967. How many had you last year?—About 150.

16968. Of these how many were males and how many females?—I would say nearly ninety girls, and the rest were boys.

16969. What were the ages of those pupils that actually came to you?—I suppose the youngest amongst them would be twelve or fourteen, and then they went up to twenty-five.

16970. And what subjects were actually taught last year in the school?—The subjects actually taught last year were cookery and laundry, dressmaking, and cutting out, typewriting, and shorthand.

16971. Drawing?—Drawing, model drawing, free hand, and perspective drawing, and there was water-colour and painting in oils for advanced students.

16972. Are you satisfied with the success that you have achieved; does it show, do you think, that there was a want of the kind of education that you are providing?—It shows there was decidedly a want, and the only difficulty I have about the matter is that the teachers of the National schools found a difficulty in allowing the advanced children to go to us.

16973. Did that difficulty arise from the hour at which they had to come, or from the unwillingness of the teachers that the children should be taught these subjects?—They were very anxious they should be taught these subjects, but they were afraid they would neglect their home lessons in consequence of coming to our school at night, at least that was the reason alleged.

16274. CHAIRMAN.—How often was it proposed over should go to you?—For cooking, three times a week and laundry twice, that is the girls, that was the only difficulty we found at all.

16275. MONSIEUR MOLLAT.—Are you of opinion that some of these subjects, at least, might be taught in the ordinary National schools, or do you think it better they should be all taught apart from the National schools, in institutions such as yours?—I think it would be the best, because we would have the highly efficient teachers there. We have a good deal of money at our disposal in consequence of the grant from the 1860 and the Department of Science and Art, and that enables us to have highly qualified teachers.

16276. What is the rate?—1d. in the £, and that yields 227½ annually; that is collected on the entire union.

16277. Suppose your school were finally and successfully established, would it meet your object if it were reserved for those who have already finished their National school course?—Of course, it would.

16278. And in that case a preparation might be made for the training you give, by teaching the first elements of these subjects in the National schools?—Yes.

16279. You would then have no opposition from the National school teachers?—No.

16280. You have heard I say that in other countries they have what they call continuation schools?—Yes.

16281. That is to say, schools which are attended by pupils who have already left the ordinary primary schools?—Ours is a school of that nature, but we were very anxious to benefit the children as long as they were not taught these subjects in the National schools.

16282. Can you tell us whether the teaching given in your institution has been accepted as satisfactory by the people—whether they appreciate the kind of teaching you give?—The best evidence of that is they are continuing the rate.

16283. So that the ratepayers are with you. Are the pupils of your school chiefly the children of ratepayers?—Oh, they are the children of ratepayers.

16284. Then we may take it that the parents of these children desire that education?—Yes.

16285. And you think it important that this kind of education should be superadded to what the children learn in the National schools?—I think it is of interest at present because the great proportion of children, as far as I have come in contact with them, after leaving the National schools, don't seem to know the elements of cookery, or laundry, or dressmaking.

16286. Do you think that the children, when they leave the National schools, are not properly fitted for the work before them in life?—There is abundant evidence of that—I have known a number of girls to leave the National schools and afterwards to get married, and they were very innocent of how to conduct housework; they get their husband's wages at the end of the week, but were unable to conduct the household work. They could play the piano, and had accomplishments of that kind, but were wanting in practical knowledge.

16287. The children who learn dressmaking from you, do they afterwards apply that knowledge at home to practical purposes, in the way of making and mending their own clothes?—I know they do, and they prepare the dresses for their families at home.

16288. So with regard to dressmaking and cookery, they apply what they learn practically at home?—Yes, and with the best of results. I have known from their parents that.

16289. You were asked whether you thought it would be sufficient to teach the principles of cooking without teaching the art of cooking. I should like you to explain your views on that point more fully?—For young children it would be very good to begin

with the principles of cooking, it would be something gained, afterwards the knowledge might be extended. 16290. But do you not think that, before you are done with them, they ought to learn the art of cooking as well as the principles?—I think so.

16291. Do you think they could ever apply the principles usually in practice if they had not been taught the art as well as the principles?—Some clever people might, but it would be no burden to them, the knowledge would be very useful. In a great many National schools where the qualified teacher went the great difficulty was in getting proper materials to use in the cooking.

16292. How was the difficulty met in your institution?—Our committee supply everything, materials of the very first and best order, and then we have all the appliances that are useful.

16293. What do you do with the things that are cooked?—We manage to sell them immediately after the lesson.

16294. You find no difficulty in disposing of them?—Very little.

16295. Does the sale of them pay the first cost of raw material?—It pays very largely to pay the first cost of the raw material.

16296. Mr. MOLLAT.—Have you published any annual report of your Institute?—We have.

16297. And the latest one is for 1896?—For the session of 1895-97.

16298. Would you have any objection to hand it in to the secretary later on?—With pleasure.

16299. What science subjects are taken up in connection with the Science and Art Department?—Last year mathematics, building construction, practical, plane and solid geometry, and we were teaching also the principles of agriculture.

17000. And in connection with the City and Guilds of London?—We had wood work, carpentry and joinery, and dressmaking and cutting out.

17001. What attendances are required in connection with South Kensington and with the City and Guilds of London Institute?—I think twenty.

17002. Now in the twenty lessons did the ordinary ex-National school pupils acquire sufficient knowledge of these subjects, do you think?—Of course twenty attendances are the minimum, but there they are every night, they must qualify by twenty attendances for examination but they come regularly every night during the session.

17003. What is the state of information on these subjects that you find the National teachers have?—I think they were very well up in these sciences when they came to us even, but their knowledge was perished at our place, so far that they passed very creditably the Department of Science and Art.

17004. Had there been a Science and Art Class in Galsbury before the establishment of your institute?—I believe there was, there were two or three pupils in it. There was a science and art class, also, conducted by the Jesuits for some years, but they gave it up before we began.

17005. CHAIRMAN.—Where did they get their previous knowledge?—At the different schools of the town.

17006. The National schools?—Yes, but they were anxious to get certificates under the Science and Art Department.

17007. But who taught them there?—The National teachers.

17008. Then the National teachers do teach cooking?—No, these were the scientific subjects under the Science and Art Department.

17009. Mr. MOLLAT.—The other subjects were electricity, magnetism, acoustics, light and heat?—Yes, we had those last year taught by a graduate of the University.

17010. The pupils who come forward from the National schools to receive instruction in these branches in your Institute, how were they prepared previously?—They were not prepared at all, they had to commence at the beginning.

Galsbury.
Oct 6, 1898.
Per. F. Lally,
P. S.

Galway.

Oct. 4, 1885.

Rev. F. Lally,
P. P.

17011. Then their success, as tested by these certificates, is due to your institution?—Yes, in technological subjects.

17012. Have you any minimum age for admission?—We have specified no minimum, but we scarcely receive anyone under fourteen.

17013. And the range is from fourteen up?—Yes, we often take trainees in to learn the sciences that apply to their trade. My idea always was to have a man who understands building construction and plane and solid geometry, and understands the application of these subjects to trades.

17014. Of course drawing to scale is taught very carefully in your institute?—Yes.

17015. In what state were the pupils in drawing who came to you?—Except those who came from an advanced school where drawing was taught continually, the pupils from the ordinary National schools were innocent of it.

17016. You mentioned you were in favour of continuation schools?—Yes.

17017. At what hour would you expect these to open?—Our hours are from 7 to 9. But some classes might be carried on earlier in the evening; we have had earlier classes at 5 o'clock; we had a class working continually at 5 o'clock for the children of the advanced classes of the National schools.

17018. What was your average number under instruction last year?—150.

17019. What accommodation, pray, had you for the 150?—We have a large house in Prospect Hill, with a good many large rooms, and we pay £40 for that. And then we had three rooms, the Commissioners gave us, in the Model School; in the largest carpentry was taught, building construction, machine construction, and practical plane and solid geometry; and in another room the head-master of the Model School was teaching science, mathematics, and the principles of agriculture in connection with the Department of Science and Art.

17020. How many rooms have you in Prospect Hill?—We have five or six big rooms, we were teaching there cookery, laundry, and dressmaking and cutting out, typewriting and shorthand, and different branches of art.

17021. Do you find it convenient to have your school in two portions?—Exceedingly inconvenient, and it was my anxiety to have one good centre to teach all the subjects, and it was for that reason I hoped, if the Commissioners were disposing of the Model School, they would give it to us for that purpose.

17022. Professor FITZGERALD.—Is there any difficulty about the Model School being used for the instruction of women at night?—That difficulty was raised by the Commissioners. They don't allow us to use it in the day, and they won't allow girls to come there at present; I would not ask the girls to come there at night.

17023. It would be better if the school were closer to the middle of the town?—That is very close to the middle of the town—it exists there, and could be made a splendid institution.

17024. Mr. MORROW.—The Model School, strictly speaking, is not so inconveniently situated?—It is tolerably central.

17025. What is your experience of the working of the special teacher of cookery that came down from the Association in Kildare-street?—She gave every satisfaction, we were extremely pleased with her, and we have her again this year. Owing to some misunderstanding we had not her last year, and I had two teachers from Leeds, one on cookery and laundry, and the other on dressmaking and cutting-out, and they gave every satisfaction, too.

17026. And you are in favour of the subject being carried on continuously throughout the year, and not limited to twenty lessons?—I think it is the anxiety of every member of the committee that they should go on continuously.

17027. You have already answered this question, that you find the integrements are decidedly in favour of the work done, and desire a continuance of it?—The best evidence is that they are continuing the rate.

17028. Mr. HARRINGTON.—Where did you get the teachers for the woodwork from?—Well, I had a very great difficulty in getting a teacher of woodwork. I think we spent about £10 in advertising in Ireland, and we could not get a highly-qualified man, because my desire from the start was to have a man qualified in building construction and plane and solid geometry, and to apply those to trades, and we could not get a man so qualified in Ireland, so that it was through the agency of the principal of the Polytechnic at Borough-road I was able to get a man from London, and he worked with us for three years.

17029. So most of your teachers are drawn from England?—We had three teachers from England, one from London, and two from Leeds, but the teacher for cookery this year is drawn from the Royal Association, and she is a highly-qualified lady, and teaches very efficiently indeed.

17030. Mr. SEYMOUR.—Your school is practically an evening continuation school?—Practically a continuation school.

17031. The schools are held in the evening?—From seven to nine.

17032. All the year round?—No; during the session commencing the first Monday in October, and terminating with the May examinations conducted by the Science and Art Department and the City and Guilds Institute.

17033. You have no classes in summer?—Not at present.

17034. Would you think it useful to have classes carried on all the year round?—Exceedingly useful, but for evening classes it is scarcely practicable to have them in summer, because in the fine evenings there are so many amusements it is impossible to keep the children at school.

17035. The subjects you teach in your school are mostly of the kind that could not be taught to young children in elementary schools?—The pupils would require to be of an advanced age to be able to appreciate the information, accordingly we don't take them earlier than fourteen.

17036. They are also subjects of such a kind that they would require teachers of a special knowledge to teach thoroughly?—Yes.

17037. Such that you could not expect the ordinary teacher in every school to have?—Such that the ordinary teachers in every school have not, as a matter of fact, because they have never been trained that way.

17038. Do you think it possible for the teacher of a rural school to have an expert knowledge of agriculture and typewriting and shorthand?—Of course it can be acquired, but I think it scarcely practicable that he can efficiently teach all these subjects.

17039. But we may have in the elementary schools certain instruction which would make the pupils better able to benefit by the instruction you give?—Oh, yes.

17040. Particularly drawing; that is a subject that ought to be taught in all the elementary schools as a preparation for their work?—Yes; the greater portion of the children in National schools go into industrial pursuits afterwards, and those who go into trades are, it is lamentable to say, very defective in the knowledge of drawing.

17041. And such instruction in science as would cultivate their observation would be useful as a preparation for your school?—Yes.

17042. And something which gave a sense of accuracy?—Yes; and to develop the faculty of comparison.

17043. Your school serves the people in Galway and its immediate neighbourhood, but have you considered how similar evening continuation schools

could be carried on in more remote districts?—I only considered the matter as far as Galway was concerned, and a radius of seven or eight miles outside of Galway. I would have all the schools within that radius served by the peripatetic teachers from our centre.

17044. You spoke of the teaching of woodwork in the town of Galway, and your idea was that the older children should come from the National schools to your centre to be instructed there?—Yes, and that is what a good many of them have done.

17045. Then would you expect to be paid a grant for the instruction so given by the National Board?—Yes.

17046. You would wish that?—I would wish that.

17047. Professor FITZGERALD.—There is a point that I have not been able to make out—that question of time has been raised, and the instruction of boys in country schools in agriculture. What do boys in town schools do at the time the boys in country schools are taught agriculture in the elementary schools? In the elementary town schools children need not be taught agriculture; what are they taught at the hour at which agriculture is taught in the country schools?—I cannot say straight off.

17048. There is no other subject that they are generally taught in town schools corresponding to agriculture?—In a great many of the town schools I think they are taught elementary drawing; I don't think that is taught in country schools as a rule.

17049. Boys are not taught drawing in all schools now, but they are in some schools?—No, it is a great pity they would not be taught in all.

17050. Would there be time in the present programme?—In the Convent schools drawing is taught.

17051. Without interfering with the literary programme?—Oh, yes; it can be worked into the programme. It is taught in the two Convent town schools.

17052. So it could be introduced in all schools without seriously interfering with the literary training?—I think it could.

17053. Do you think the managers about this district would be willing to introduce or anxious to encourage the introduction of drawing and elementary science into the schools?—I never knew a man to be opposed to it. I think they would be very glad of it; it would be so useful to the children.

17054. From your knowledge of the other managers about?—All the managers I ever heard expressed themselves satisfied with the children learning drawing.

17055. Do you think they would like to encourage them to do some elementary manual instruction, card-board work, and elementary woodwork?—I would not like to speak for any other manager, but I would myself. I never heard them discuss it.

17056. It was suggested by the Bishop of Limerick that it would be desirable that the managers should combine together to arrange in a particular district what manual instruction or what general instruction in the schools would suit their particular district?—Yes, I was reading that in the newspapers this morning. I think it was a very good suggestion, and that it would work very fairly.

17057. Do you think it would be possible to work it amongst the managers of this district?—I think it would.

17058. The question has been raised as to whether it would be better to introduce elementary science and object lessons, and first class of subject, in the town schools, or to introduce manual instruction and elementary constructive work, like cardwork, and wirework, and a number of other things like that, as an introduction to woodwork that can be introduced into schools; and in opposition to that there are object lessons and elementary science, have you ever thought of which of these would be better?—I think

object lessons and elementary science would be very useful for children.

17059. You think they would be more popular with the teachers?—They would be very popular with the teachers.

17060. And the parents?—The parents would be very glad of them.

17061. Do you think they would prefer that to the constructive work?—The constructive work to go on later on.

17062. Do you think the parents about this district would object to their children being made conversant of?—Some children I have been recently speaking to say that the parents would.

17063. You have not found the parents object to the girls being taught laundry, for instance?—On the contrary, they have been delighted at it; in the beginning they did not see how they would want that knowledge, but when they commenced to learn and show their proficiency in washing the parents were delighted.

17064. Then, as a matter of fact, the parents in Galway have seen the value of it?—They have seen the value of it, both of laundry and of cookery.

17065. Then you think from that they would be likely to be willing that the other subjects should be introduced into the elementary schools?—I think they would, when it commenced they did not see the necessity of it, but after the children acquired the knowledge they saw the utility of it, and the benefit of it to their own households; they told me so.

17066. You don't think the parents would object to these subjects being introduced into our schools?—I don't see why Irish parents should object when English parents do not.

17067. There was some opposition at first?—And it was overcome, and I think it would be overcome.

17068. Rev. Dr. ENAME.—The Commissioners of National Education have granted you the use of a portion of the Model School for your technical school?—Yes, sir.

17069. How long is that ago?—About a year and a half ago.

17070. Are you the manager of the technical school in Galway?—I am not the manager, but I am honorary secretary, and have so acted since 1888.

17071. Is there a manager at all?—The Lord Bishop is chairman of the committee.

17072. There is a committee?—Yes.

17073. How many pupils have you in the school?—I have just said the average was 150 last year.

17074. Where did you obtain your teachers?—I had one from London, whom I got through the agency of the principal of the Polytechnic; he was a teacher of carpentry and building construction, and practical plane and solid geometry, and I got two teachers from Leeds—one teacher of cookery and the teacher of dressmaking and cutting-out.

17075. Is there any inspection of the school?—Mr. Preston inspecting on behalf of the Department of Science and Art.

17076. Do the inspectors of the National Board come into it?—The District Inspector superintended the examinations last year on behalf of the Department of Science and Art.

17077. But the Commissioners of National Education as such?—Exercise no official authority over it.

17078. Do they charge fees?—Yes.

17079. Could you give an indication, Father Lally, of what those fees are?—The rule is very elastic, because the committee, in order to put no embargo on the children using the schools, allowed me to use a discretionary power in fixing the fee, and when I saw a deserving case the fee was reduced, and sometimes remitted entirely.

17080. You reserve a discretion to yourself?—No, but the committee have allowed me a discretion in the matter.

Galway
On 5 1891
Rev. P. Lally,
F.R.

Galway.

Oct. 6, 1891.

Rev. P. Lally,
P.P.

17081. Do you send out peripatetic teachers?—We have sent out a peripatetic teacher of weaving of wool, but we found his services were not much used in the country.

17082. The services of the teacher did not quite satisfy the people?—No, the people did not want him.

17083. Have you any objection to say what you pay the teachers?—We pay to the teacher of practical instruction in wool £150 for the year, practically it was for the season, and the teacher of sockery last year from Leeds was paid £90 a year, and the teacher of dressmaking £70.

17084. Is there a Christian Brothers' school in Galway?—The Christian Brothers conduct the Industrial School; that was the only one.

17085. Is there any teaching there?—There is the teaching of woodwork.

17086. Similar to yours?—Not similar to mine, their teacher has no scientific knowledge.

17087. CHAIRMAN.—Is he an ordinary teacher?—He is an ordinary carpenter, but then he has no idea of the scientific subjects.

17088. Rev. Dr. EVANS.—Yours is of a higher order and much more educational?—Yes, in the highest degree educational.

17089. CHAIRMAN.—You are aware that in some quarters there is an objection taken to introducing an artisan into a school, on account of the discipline of the school?—Into a National school?

17090. Well, into an elementary school?—That would be overcome by my proposal that the manual instruction would be imparted after the literary work.

17091. That the teacher, in fact, should have nothing to do with it, and, therefore, his authority would not be undermined in the eyes of the children by an outsider being brought in?—Not the slightest; he would stand as he was before.

17092. Rev. Dr. EVANS.—Can you put in, before

we leave, a statement to show how much more you could do if you had better accommodation at the Model School?—I could tell you at once, if we had the Model School entirely as a technical school we could acquire the land around it for practical farming and teaching of agriculture, and there are a good many more classes we could support; all we want is money and room.

17093. Professor FITZGERALD.—Then it would cease to be a primary school?—It would cease to be a model school.

17094. Mr. STEPHENS.—It would still be available in the day time?—No, we would have our classes there, at present the difficulty is, we have two houses divided.

17095. Rev. Dr. WILSON.—Are you able at present to accommodate all that apply to be admitted?—We are, but the expense is large; we have to pay £70 this year for our house, and a large proportion of rates and taxes as well.

17096. Do you admit all denominations?—Oh, certainly; we are working under the Technical Instruction Act of 1890.

17097. Have you many not connected with your own church?—We have, in fact, I think the greater proportion are Protestants and Presbyterians.

17098. Captain SHAW.—Was the peripatetic teacher for weaving?—Yes, a teacher of woollen weaving.

17099. Would it not assimilate there being looms wherever he went?—It would not, our anxiety was that he would teach the people how to construct looms according to the latest models.

17100. Teach them to construct looms?—Teach the village carpenter how to get up a loom for the people themselves.

17101. That expense would come on the locality?—It would come on the parties who were anxious to go on with the weaving industry themselves.

Very Rev. Canon LYSNEY, F.R.S., &c., Clifton, examined.

Very Rev.
Canon
Lysney, &c.

17102. CHAIRMAN.—I believe you are the Parish Priest of Clifton, in Concomara?—Yes.

17103. And you are the manager of a number of National schools?—Eighteen schools.

17104. I know they must be rural schools, are they mostly small schools?—Yes.

17105. What is the population of Clifton?—About 1,500 people.

17106. Then the school there is more of a town school?—It is; we have two schools there—the Convent school and the ordinary National school.

17107. The others are purely rural schools, with only one teacher?—Yes; we have two teachers in two of the eighteen schools.

17108. And the schools of which you are manager are in the two counties of Mayo and Galway?—No, they are all in Galway; but I have had experience of schools in Mayo.

17109. I think you wish to make some remarks on the disadvantages arising from the irregularity of the attendance of children in schools?—Yes, I think it would be very hard to get the children to come to school and learn anything if their time be occupied with technical and literary instruction. I think some new programme must be made out if technical instruction be introduced into the schools.

17110. We won't call it technical instruction; we will call it manual instruction?—It is merely a term used; manual instruction if you like.

17111. Will you tell us, then, in what way you think manual instruction could be imparted to the children without interfering with the literary programme?—The way it would be best imparted to the children would be at play time—that is to say that play time would be devoted to that purpose,

and half an hour before it; that is, that an hour a day should be devoted to manual instruction.

17112. What would you take the other half hour from?—From literary instruction.

17113. You would so far encroach on the literary instruction?—I would, but I would not take away more.

17114. What subjects would you modify to give that time?—I don't think it is possible to modify any subject; I would shorten the lessons.

17115. It is in evidence before us that that has been done in the case of the school under the Christian Brothers, at Lismore, where they introduced manual work, and did it by shortening lessons, and gained two hours in the week?—I think so, owing to the irregularity of the attendance of the children. The materials should also be supplied out of a fund to be provided by the Exchequer through the National Board. It will be very hard to get the children to provide the material.

17116. In fact, I suppose in the rural schools the parents don't possess the material?—I think it is useless to introduce it if we don't get the material.

17117. What would you say with regard to agricultural instruction?—I think that agricultural instruction is badly imparted now. It ought to be imparted in local plots about the school, in which the teacher would give instruction to the children. You have the Congested Districts Board adopting the plan of plots in different parts of the country.

17118. How do they acquire their plots?—They get them from the farmers.

17119. Do they hire them or buy them?—They supply the seed and manure, and the farmer supplies the labour.

17120. On the same principle that the county

Councils have adopted in some places in England?—I think so.

17151. What you would advocate is, that the managers of the schools should have power to make arrangements with the farmers?—To make arrangements to procure the plots.

17152. How large a plot would you think necessary?—Not more than five or six perches in size, perhaps.

17153. That, you think, would be sufficient?—Quite enough for turnip sowing, and potato sowing, and other agricultural products that there might be in the district.

17154. And you think that that plan would be better than the present practice of teaching agriculture, by merely getting up a text book, or than another plan that the Bishop of Lincoln suggested yesterday, of teaching the principles underlying agriculture without the use of plots?—Well, I am afraid the instruction, such as is given now, is very useless.

17155. The course the Bishop suggested was an intermediate course between the two, he was against the text-book and against the plot; but he thought the general principles of agriculture might be explained to the children, the use of manures, and the properties of manures; you think plots would be preferable?—I think, unless you have the manures there, and then to point out to them the value of them, it would be perfectly useless, because the children would forget the oral instruction after they leave the school.

17156. Do you think, for children living on the seacoast, it would be advisable to teach them something with regard to fish-coring and the value of seaweed?—Certainly, those are the industries of the locality; it would be useless to teach them manual instruction if you did not teach them the instruction useful to them in their daily avocations.

17157. I see you have some remarks upon the subject of results examinations, what would you say upon that subject?—The examination by results, such as it is at present, is not fair to the teacher or to the pupils—it is extremely unfair to deprive the teacher of his salary, because it is part of his salary, if a child has not 100 days made, and then I think it is also unjust if seventy-five of a school pass, and there are fifteen who have not passed. I think the seventy-five ought to carry with them the other fifteen, because what the Board, I take it, desire to have, is an indication that the teacher has been doing his duty, and I think the seventy-five simply give testimony that the teacher has been doing his duty, and if, therefore, fifteen or less, three, or four, or five, or six, have not been successful, and have not done enough to pass, it is hard to deprive the teacher of his salary on their account.

17158. What would you say with regard to the examination of inspectors?—I think the inspector ought to confine himself exclusively and entirely to the book, and ought not to adopt words that are not in common use in the book, he ought to examine, and not to desire to puzzle. I heard of a question such as this:—"What are the waters about Alaska?" asked of a little child.

17159. I believe you think that no inspector ought to be permitted to hold results examinations, and he has some trained experience in the discharge of the duty of examinations?—I think that, certainly, because, suppose a student from Trinity College becomes an Inspector—

17160. How would he get experience without examining?—He ought to accompany the inspectors who go to examine for results, and see how experienced inspectors examine, and then to take, as it were, his lesson from them.

17161. And do some little examination himself in their presence?—Certainly. You have the training of teachers; and the training of inspectors, I think, would be of far more importance so far as results are concerned, and the fees to be paid to the teacher.

17162. Then you think it would be better that the inspector should earn his position by practical training in the art of inspection rather than by passing an examination in a paper?—I think so, certainly; I think it is a great encouragement to a teacher to know that he is likely, after a little time, to come to an inspectorship.

17163. Mr. REMONSTR.—Do you think it would be fair to the children to deprive them of their play-time?—I think the manual instruction would be play, it would be very easy to make it play-time.

17164. They would enjoy it as much as running about in the play-ground?—I think so, running about in the cold in the play-ground. If they had this instruction in a room, although instruction, it would be amusement to them.

17165. If by some modification of the programme, we could get time for the manual instruction without interfering with the play-time would it not be better?—It would, but it would be very hard to find it, it would be very hard to modify the programme unless you extended the time. For instance, I was in England lately, and saw the children coming from school at four o'clock or a little after (half past four); we have our schools closed at three. I cannot understand why we would not at least have the energy of the English children.

17166. But you know that they have a two hours' break in the middle of the day in England?—That would not be of utility in my district.

17167. I don't say it would, but the English children get lots of play-time. It has been given in evidence that grammar, and possibly geography, might be made optional subjects for certain classes, would you be in favour of that?—No, I think the little grammar they have ought to be continued, and geography too.

17168. CHAIRMAN.—But the sort of geography they have, the learning of the heights of mountains, and the lengths of rivers?

Monsieur MOLLAY.—And the waters around Alaska?—Yes, I think it would be well to continue the teaching of geography, because, if boys or girls don't know the countries of the globe, what else do they know?

17169. Mr. REMONSTR.—I think you said that it would be very difficult to provide materials for cooking in rural schools?—Certainly.

17170. It was stated to us that it might be possible for a teacher to cook her dinner before the pupils, and so get over the difficulty about the provision of materials. What do you think of that?—I think, it is not possible, the children would be only all laughing at her.

17171. Why should they laugh at seeing a good Irish stew cooked?—I don't think it is practicable. If you want to introduce a thing of that kind you might go about it in such a way that the children will not make a laughing of it, and you must have a distinct room from the ordinary schoolroom.

17172. If the cooking were done at the end of the day's lesson, and the dinner were to form part of the cookery lesson that there is not, perhaps, in other circumstances?—I don't think it is feasible in that way.

17173. Are any of the science programmes of the Board taken up in any of your schools?—Yes, Euclid and algebra.

17174. Is any chemistry taken up?—Not yet.

17175. I think you said that the study of a little chemistry might be of use with regard to the help industry?—Decidedly, and it would be useful in agriculture also.

17176. Why is not chemistry taught?—I suppose the teachers cannot come to that, the children have not arrived at that perfection that we would recommend them to learn chemistry.

Galway.

Oct 6, 1897.

Very Res.
Came
Lyonsey, P.S.

Glasgow.
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On 4, 1897
Very Rev.
Canon
Lindsay, p. 2.

17147. But the pupils of the fifth class can be taught it if the teachers are competent—I am sure the teachers would easily learn and become competent.

17148. Would you be in favour of making some elementary science compulsory?—I would chemistry.

17149. Is not net-mending taught in some of your schools?—It is.

17150. Do you think that a desirable subject to teach in elementary schools?—Very much so, it has been a great success.

17151. Does it interfere with the teaching of literary subjects?—Not at all.

17152. At what hour is it taught?—Generally after school.

17153. Monsieur MOLLOY.—Are the eighteen schools of which you are manager, all in the parish of Clifton?—They are all in the parish of Clifton.

17154. The greater number of these, I suppose, are rural schools?—All, except the Convent school.

17155. Could you say generally what is the number of the school-going children in the parish?—I think the number on the rolls would be about 1,200, and the average number about 700 irrespective of the Convent school.

17156. Including boys and girls?—Yes.

17157. You said, I think, that the manual training would be a kind of recreation?—I think so.

17158. A relief from the literary work?—Yes.

17159. And you think the hours of attendance at school, if manual instruction were given, might be extended a little?—I think so.

17160. Say half-an-hour a day?—Quite so.

17161. I think also you said that half-an-hour might be gained from other subjects?—Quite so, in the middle of the day.

17162. That would give an hour a day, which would be five hours a week?—That would be quite sufficient.

17163. That would leave abundance of time not only for manual teaching, but also for the elements of science?—Quite so.

17164. Do you think it desirable the elements of science should be taught as well as the literary subjects?—I think it is a very great advantage in the different countries where it is taught.

17165. Would the parents in your parish be glad to see subjects of this kind introduced of a practical character?—I think so, I don't see why there should be any objection at all. It would be the desire of a parent to educate his child and I take it the parents would be very pleased with anything that contributes to that.

17166. Do you think the education at present given in the schools of the National Board is too strictly of a literary character?—I really don't think it is at all too literary, we are advancing very rapidly—education is advancing, and with the little time that a child is able to go to school, I think in the end when he has acquired such information as he can get in a National school, he has not required too much.

17167. You would not desire to see that reduced in amount?—It would be a retrograde motion.

17168. But you think it desirable that something in the way of practical and manual teaching should be added?—Yes.

17169. In order to prepare the children more directly for their work in life?—Yes.

17170. Mr. MOLLOY.—You referred to the results examination which you characterized as unfair to the teacher?—I think so.

17171. If I understand your answer right you would prefer having a class examination of pupils?—I would have an individual examination but class as a result.

17172. In that individual examination would you include those who had not, as they technically call it, made the minimum number of days—100?—I certainly think the number of days ought to be

shortened, 100 days are too many. I think for the purpose of results 60 days ought to be quite sufficient if the information be there, because after all if you come to the same end by 60 days, if you have the child taught in that time, I think it would be the same thing, so far as education is concerned, as if the child were there 100 days.

17173. In view of the very large number of children who do not attend the minimum number of days, would you not think it desirable on the occasion of the inspector's annual visit that these would come under examination by him?—I do, I think it would be very proper.

17174. So practically your idea is that all the children on the school roll should be examined?—If possible.

17175. But you are in favour of individual examination?—Individual examination, at the same time that class would be taken as a result.

17176. You deem it desirable that a newly appointed inspector should accompany an experienced man for a little while?—I think it is very important.

17177. Perhaps you are not aware that for the last forty years that has been the case?—More or less, I am aware of it. I made inquiries, but I still think it has not been sufficiently useful, or used to bring home to the young inspectors the best method of examination.

17178. Would you indicate any period that you think he ought to be, as it were, in training before commencing to examine, with a view to award result fees?—That would depend also on the results. If the gentleman learned quickly, and fell into harness quickly, the time could be shortened, but it is a very hard often to conduct an examination of little children.

17179. In reference to your eighteen schools— which, by the way, is an unprecedented number to be under one manager—how many of these are exclusively under masters, and how many under mistresses, and how many are mixed schools?—The girls' are fewer than the boys'; I suppose about seven schools would be girls', and the others would be boys', and there are two mixed schools.

17180. Are these conducted by female teachers?—By a master and female teacher.

17181. In the eight schools for boys have you any special instruction suitable for boys?—There is no special instruction except the net-mending, agriculture, of course, is common.

17182. Is drawing taught in these eighteen schools?—I don't think it is taught in any of the schools, and I think it would be most valuable.

17183. Surely amongst the number of assistant teachers of the eighteen schools there must be persons who have been trained and have obtained certificates in that important subject, and thereby qualified themselves to earn results fees and introduce the subject?—I think there is only one or two who have a certificate for teaching in drawing.

17184. How many of your eighteen principal teachers are trained teachers?—I think they are nearly all trained except a few, three or four, I think.

17185. Has cookery been carried out in any of the girls' schools?—No, except in the Convent school.

17186. In the case of the girls it is plain needle-work and knitting?—Yes. I am not manager of the Convent school at Clifton.

17187. In cookery not carried out there?—It is; it is taught, but not extensively; they found it very difficult to find material.

17188. CHAINMAN.—What sort of things do they cook?—Chops and fish, legs of mutton, hams, anything that turns up just then.

17189. Do they attempt legs of mutton?—Yes; it is useful for the nurse for the purpose of teaching as well as for their own use.

17190. MANSIEUR MOLLOY.—Can you say what is

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the greatest distance the pupils have to go to school in your parish?—Some of the children have to go three miles or more.

17191. That would be the extreme limit?—I think so.

17192. I suppose large numbers have a school within a mile?—Yes, the children are very little, and if you have not the school near them they won't go to school at all.

17193. Mr. MONTER.—Have you island schools?—We have two island schools.

17194. Captain SHAW.—Have any of your schools got more than one room?—Yes, Cleggan and Ballycassey schools, recently built, have two rooms—a classroom and an ordinary schoolroom.

17195. Would it be possible, if you put up a cookery place or manual instruction workshop at any school, to group the schools so that the children might come from other schools there?—I think not in Connemara, the distance is too great.

17196. Would you prefer that net-mending, and other purely technical subjects in use in the trades which the children learn afterwards, should be taught after the elementary school, if there were technical schools in the country?—I think that the requirements of the local industry should be taught concurrently with literary instruction. My view is that if you allow it to run up to the time when the child has finished his education you won't get back the child to go in for the manual instruction.

17197. You think it is preferable that such purely technical subjects as net-mending should be taught in a continuation school rather than the elementary school?—Certainly in the elementary, that is to say, concurrent with literary instruction. I take it that Captain Shaw means something technical with regard to continuation school. I understood from the evidence of Father Lally that it meant that a continuation school was a school subsequent to the ordinary school, that is to say, a child had finished his education in the National school and went to continue his education in the continuation school, that is my idea, having had the pleasure of listening to Father Lally.

17198. Or he may go to the evening school while he is in the higher class of the day school. You say you think agriculture should be taught in the school, but you express an opinion that chemistry is beyond the capacity of most of the children?—It is not beyond the capacity of the fifth class child.

17199. But agriculture includes chemistry, botany, and geology, and, therefore, would seem to be more beyond their capacity?—I don't think it is beyond a child of the fifth class.

17200. Is it not preferable that he should get a grounding in the sciences that underlie agriculture?—I think so. It would be well to give the child an idea of the practical value of agriculture, the different soils and the value of manures.

17201. These could be taught as elementary science with practical demonstrations?—I think so.

17202. Mr. SPROULING.—We have it in evidence that teachers find considerable difficulty in preparing their children for the present results examinations on the present course?—Yes.

17203. And you say it is extremely difficult to bring up a child to the required standard if he only makes 100 attendances?—Sometimes a child who does not make the 100 attendances is very well prepared, but he cannot be attended.

17204. But, taking the average, the complaint of the teachers is that it is difficult to prepare a child in 100 days?—I believe it is true.

17205. It would be still more difficult to do it in 60 days?—It would, undoubtedly, if you expected the same results. My theory is—the results ought to be modified, both as to examination, as to the time required in the school, and, furthermore, as to the individual examination, that it ought to be a class examination, and the results ought to be computed by

the evidence given in the class rather than by individuals here and there.

17206. Yes, but if you take away play-time and substitute manual instruction, you still further shorten the school day?—Not very much, only half an hour according to my programme.

17207. You still add to the difficulty of the teacher in making a good appearance at the results examination?—Yes, if you continue the same extent of results—that is to say, if the results be on the same programme as it is now.

17208. Do you mean you would expect a child who had made 60 attendances, for instance, to be examined on a less programme?—Certainly.

17209. Then the child who had made 100 attendances?—Certainly.

17210. Then would you go the length of drawing up a programme, specifying how much is to be required from a child who had made 60 attendances, and how much is to be required from a child who had made 100 attendances?—I have not drawn up a programme.

17211. But would you go the length of having a programme drawn up?—I would—to suit all pupils in one programme.

17212. Would not that lead to a rather complicated style of examination?—No; to answer three questions out of five ought to secure a pass in any class.

17213. But it might be harder to answer three difficult questions than five easy ones?—I am quite against difficult questions.

17214. Would you be in favour of a different programme of work for a small school?—Yes.

17215. The conditions are so different from a town school, it might be a desirable thing to have a separate course of work laid out for schools with one teacher only?—I think it would be very feasible.

17216. Professor FITZGERALD.—Do the teachers in your district teach extra subjects much?—Not very much.

17217. When they do teach extra subjects how do they find time for doing it?—They teach them after hours.

17218. And the children are willing to come back?—The children remain.

17219. So, as a matter of fact, in some places there is no great difficulty in getting children to stay a little longer in school than they do?—I don't think there is much difficulty in getting a child to remain, but there is a difficulty in getting a child to come in sufficient time to make his day. I think it is very easy to get the child to remain once he is there.

17220. If we were to introduce drawing it would be necessary that our present teachers should qualify to teach drawing?—Certainly.

17221. Do you think the teachers in your district would be willing to go into a centre—such as Clifden—in order to be taught drawing?—I have no doubt about it.

17222. If we sent down a special instructor they would be willing to come?—Quite certain, on the expectation that it would produce money pay for them; they would go in on Saturdays.

17223. And the managers would encourage that?—Certainly. We are anxious to keep pace with the times.

17224. You said it would be desirable that school plots should be provided in connection with schools?—Yes.

17225. Would it be possible to get those?—Quite possible. As a matter of fact they are in the neighbourhood already, in connection with the Congested Districts Board.

17226. Those are example plots?—Sample plots, such as the Congested Districts Board has.

17227. They are still owned by the farmers?—Still owned by the farmers.

17228. But your plots that were to be used by the schools, were you proposing that they should be null

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owned by the farmers?—Certainly; it would be very hard to get them other way.

17229. Would it not be well to show the children experiments illustrating the growth of plants; for instance, in their present agricultural handbook it is said that if you do such a thing with a seed it will grow. Would it not be better to show them experiments with seeds growing?—I think so, as an object lesson, nothing better.

17230. Could you not grow seeds in sand, and show them that the seeds would grow a great deal better if you put a little manure in it?—Quite so.

17231. And experiments of that kind to illustrate the principles of the growth of plants?—That would be entirely my idea.

17232. Do you think children would be willing to go into schools to learn that?—I think so.

17233. If it were substituted for their present mode of teaching agriculture?—Yes.

17234. Rev. Dr. EVANS.—If three-fourths of the pupils of a school pass the examination you think it affords evidence of the teacher's fidelity and efficiency?—I think so, certainly.

17235. And that he should be paid the full fee for the teaching?—That is my view of the situation.

17236. You would not count any part of the literary programme?—I would not. I think it is little enough as it is.

17237. You have evidence that the literary instruction is of such value to the pupils that you would not, as their pastor, feel justified in setting any portion of it?—I don't think it would be wise.

17238. Would you be in favour of modifying it if a better method of teaching were devised?—Yes, I would like to have the best method.

17239. And if a better method of teaching grammar were devised you would be in favour of it?—Yes.

17240. Captain SLAY.—Do you think the Sixth Class Reading Book is not too difficult?—No, I do not.

17241. Do you find they understand it intelligently?—The Sixth Class child will answer intelligently from the Sixth Book.

17242. Rev. Dr. WILSON.—You are manager of

eighteen schools. Assuming you do that work conscientiously, as I am sure you do, from all you know about it, have you really any time for other official work?—Oh, lots of time. I can visit six schools on any day that I go out and be back at four o'clock, and I have often done it; and go out the other side and visit six more the next day—leave at ten o'clock and be back at four o'clock.

17243. With regard to results fees, you have been speaking about them from the standpoint of the teacher: from your wide experience—and it is very wide—of the National system, are you in favour of it at all?—I am thoroughly. I think it fits a child afterwards for the battle of life. If he has to become a civil servant, it is a capital preparation for the Civil Service or any other examination.

17244. You don't think it lies open to the objection that it is a system of cramming instead of teaching?—I don't think so. I think those who say it is a system of cramming object to it on other grounds. I think it is a capital system for imparting instruction and information.

17245. Well, many have said it to us, but they have not had your experience?—Besides, that I have had experience as a boy of the National school. The results system did not exist at the time, but I say the system existing now is much better than the system that was when I was a boy going to the National school.

17246. You say the inspectors should confine themselves to the book?—Most certainly.

17247. From your experience is the book often departed from in the examination?—Well, I don't think it is often departed from, but, at the same time, if difficult words be sought out in the book I think the book is more or less departed from, because the book generally is taken as the foundation; the difficult words are incidents. They come in in the course of reading, but, at the same time, the child would not, perhaps, catch that difficult word. He sticks on to what is the general tone of the book.

17248. Suppose the Treasury could be induced to expend the necessary money on 8th-class and things of that sort, do you think it would be a judicious expenditure of public money?—Decidedly; as a matter of fact it has as proved itself already.

MR. JAMES PERRY, K.L.E.K., County Surveyor, Galway, examined

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Perry, K.L.E.K.

17249. CHAIRMAN.—You are the County Surveyor of Galway?—Yes.

17250. Have you given any attention to the subject that we are to inquire into—namely, how and to what extent manual instruction can be introduced into the National schools?—I have given a good deal of attention to the whole subject of technical education.

17251. But we are not inquiring into technical education, and cannot let you go into that, I am afraid?—I will substitute manual instruction.

17252. You must substitute it in its elementary form, and not in the form of making doors and wire fences, but rather that sort of manual instruction which is taught in the Training College in Marlborough-street, if you know what that is. Have you turned your attention to that subject?—I have not. I don't know what is taught in Marlborough-street.

17253. Mr. REMMOND.—You attended a National school when you were a boy?—Yes.

17254. Was the education too literary in your opinion at that time?—Well, there was too little of it, I think. From the time I was ten years old until I left the school I don't think I did an hour's work in the day, and it was very much the same with the other boys in the class.

17255. If manual work had been taught in the school would it have made your lessons more attractive to you?—Certainly.

17256. Then you think some time might have been spared from literary subjects for practical instruction in manual work—for example, teaching the boy the

use of simple tools?—I think there is plenty of time.

17257. Do you think everybody ought to be able to use simple tools?—Certainly.

17258. And to draw to scale and to measure exactly?—I think every boy ought to be taught drawing. I think it is fundamental, and every boy ought to be taught algebra and every boy Euclid.

17259. Do you think every boy ought also to be taught how to apply his drawings to some concrete object, such as a piece of wood?—Certainly.

17260. Do you think that there is a great want of interest taken in schools at present?—I do, there is certainly a very great want of interest.

17261. How would you increase the interest taken in schools; do you think local committees would be a good thing?—I do; I think the interest in schools will increase naturally as education itself spreads.

17262. It was stated to us that associations of managers of schools would be of use in order to develop local interest in schools?—I think so. I saw the Bishop of Limerick's examination, and I think the idea he had was the idea I had, except that if there was a local authority I would have this committee appointed by the local authority, which probably would be largely managers of schools.

17263. The Bishop's idea was that the associations should be voluntary. Could you give your opinion of the present system of payment by results?—Well, I have not very much personal experience of it, it is

mainly herring, but my feeling is that it is only a temporary expedient. I think there ought to be some sort of test of value being given for the money, but I think the payment by results is a very rough and ready plan.

17264. As at present carried out?—As at present carried out.

17265.—Would you pay a diligent teacher more than a teacher who is lazy and idle?—Certainly, I would rather have an examination of the school than an examination of the children. I think if I was planning the thing I would send one inspector on the basis of another, I would not let it all depend on a single inspector, not that I have any doubt about the fairness of an inspector, but inspectors have little specialities, and it would equalise matters if one inspector was sent after another.

17266. That would greatly increase the cost of inspection?—It would, but I would go in for a change all over, inspectors are now of pretty much the same standing, and you may have a graduated force of inspectors and assistant inspectors.

17267. You are acquainted with the agriculture of this country; do you think it might be benefited by an improvement in the system of teaching it in schools?—Certainly, my experience of the teaching of agriculture in schools is that it was not taught at all. I attended a rural school.

17268. It was taught out of a book?—It was merely taught at all.

17269. How were you taught?—The book was there, we knew it was in the school, but I don't remember ever reading that book in school.

17270. Did the teacher explain what was in the book?—He did not at all, he did not teach us any agriculture.

17271. CHAIRMAN.—Then he got no foot?—This was before the results system.

17272. Mr. RUSSELL.—Do you think agriculture ought to be taught to children of the age of those who go to National schools?—I do.

17273. Do you think a school plot attached to each school would facilitate the practical teaching of agriculture?—I do.

17274. What size do you think it ought to be?—I would have it a good size, half an acre, it depends on what you could get.

17275. Could you not teach the principles of agriculture on a much smaller area?—I would rather have it taught in a more clear way, so that there would be apparently some real use in what was done, it would be more like a child's garden if you had it much smaller than that. If you have a nice small plot of 4 or 5 perches, as Father Lynskey spoke of, I think it would be too small.

17276. Could you not show the pupil all the operations of agriculture on that small plot?—You could, you could do it on a blackboard or in little boxes with sand.

17277. Could you not teach how a plant grows and how manure affects a plant in a box of sand?—You could, but I would prefer the larger operation.

17278. Is there any danger that if the plot were too large the teacher would make it a source of profit?—I don't see that there should be any objection to that.

17279. Ought it not rather to be a place for experiments, and experiments are not always profitable?—I think I would experiment in a profitable way if possible, and that is why I would go in for a larger plot. The schoolmaster who taught me had a plot in connection with the school.

17280. If you show a pupil how manure improves some vegetables and the absence of manure prevents others from growing equally well, that is not a very profitable way of carrying on agricultural operations, yet it is very useful?—Yes, but yet see, to have teaching of that kind effective it

would need to be continued for a considerable length of time, if you grow a crop it takes some time.

17281. Are not the children there all the year round?—They are, but I would do it on a small scale.

17282. If manual instruction were brought into the schools what kind of instruction would be most useful?—The Chairman has not allowed me to say anything about technical instruction.

17283. If you had a child ten or twelve years old of your own, and wanted to give him a little manual instruction, what would you teach him?—I would teach him to plane wood.

17284. CHAIRMAN.—You are aware that in Denmark the early lessons are exercises in sawing and planing and working with the chisel?—That is right.

17285. Professor FREDERICK.—Do you call that technical instruction?—I call every kind of instruction technical instruction.

17286. What the Chairman meant by saying that we excluded technical instruction was instruction in trades as distinguished from handicraft; the manual instruction that can be given in schools is of one, but we are not inquiring into technical instruction in carpentry?—I call every kind of instruction to myself technical instruction from start to finish.

17287. CHAIRMAN.—I am afraid our Commission is not allowed to inquire into technical instruction so far as it is the art of learning a trade; we are only to inquire into that sort of instruction which would give elementary knowledge which would enable a pupil after he left school to learn a trade with more facility and to be handsomer than he otherwise would be?—In my little slip that I sent to your secretary I confined it to that.

17288. I understood you to go into a great deal more than we are inquiring into?—I said it would be good for a boy to be put to point a piece of nail rod, it is a very difficult thing for a beginner to do, and to weld two pieces of nail rod. I would not call that instruction for a trade, it would teach him the properties of iron in a way he could not pick up otherwise, and then there would be the question of working with wood planing, and so on.

17289. And making simple models?—Making simple models and making the drawings of things.

17290. I don't know whether you have read the evidence that was given before us in England, but if so you will see that in Birmingham they carry the distinction so far as not to allow the pupils of the board schools to finish anything, they are allowed to make joints, but not to make a complete box?—I think we will get beyond that in time.

17291. Monsieur MEYER.—You have practical experience of the working of the present system of National Education in this country?—I think fairly.

17292. Do you think that the present system affords a good and solid groundwork for a subsequent course of technical education?—I do not.

17293. Do you think it desirable that it should afford such a groundwork?—I do.

17294. How do you think it could be modified, so as to constitute a good groundwork for technical education to be afterwards added?—The main difficulty is in rural schools, where you have a single teacher to teach a great number of subjects. I think it is an impossible task for one teacher, and there ought to be peripatetic teachers.

17295. Do you think it desirable that all pupils in the National schools should be taught to use their eyes and hands and other senses?—I do, certainly.

17296. Not merely in reading and writing, but in doing things?—Certainly.

17297. With regard to things they ought to be taught to do, would woodwork be a suitable kind of manual training for children in National schools?—It would.

17298. Do you think it desirable that it should be introduced?—I do.

17299. And in connection with woodwork should they be taught drawing?—They should.

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17300. And they should be shown how to work out their drawings in the wood?—They should.

17301. Ought they to be taught, do you think, the elementary principles of science?—They should.

17302. In order to teach those subjects there must be a trained body of men fit to teach them?—I think so.

17303. And, therefore, do you think that those subjects ought to be taught to the teachers in the training colleges?—Well, you won't get one man to know everything well; I think I would give them all an opportunity.

17304. All the teachers in the training colleges should have an opportunity of learning some one or more of these subjects?—Yes; and the men who are specially good at those subjects I would make teachers of those subjects, and send them round the schools as peripatetic teachers.

17305. You don't think, then, that the ordinary schoolmaster, even if well trained, would be able to teach these subjects himself in addition to the ordinary history or music?—I don't think it. I think he has too much to do already. I think that is the great difficulty. I have compared the pupils at National schools with the pupils in well-organized schools attended by children whose parents are able to pay for a higher class of education. Here you have got different men having separate subjects to teach, and you find a child at one of those schools does a great deal more in the time than a child in the National schools—immensely more.

17306. Let us take a large school with several teachers. Do you not think it would be possible so to select those teachers that amongst them they could teach the various subjects?—Yes, there are some schools where that might be done, but they are comparatively few.

17307. Where there is only one teacher, you think he ought to get assistance from peripatetic teachers for the extra subjects, such as elementary science, manual training, and drawing?—I think so.

17308. CHAIRMAN.—You are aware that some witnesses have made very great objection to that system upon the ground that it would lower the ordinary teacher in the eyes of his pupils, and that he would object very strongly to the peripatetic teacher coming in. Do you see any force in that objection?—I do not; I would make the ordinary teacher the administrator of the school, and those other men, some of them might come in as special instructors only, and some of them might be connected with the inspection, and might be really superior to him in standing, but I don't see that it would interfere with him at all.

17309. MONSIEUR MOLLOY.—In large towns could not the difficulty be got over by having centres to which the pupils would come from the schools round about, to learn the special subjects, such as science, woodwork, cookery, and laundry?—Yes, that could be done, but there is the difficulty in the waste of time going from one place to another and one school to another.

17310. If the distance was not more than a mile, the waste would not be very considerable?—Even so, it means a mile there and a mile back.

17311. Not necessarily a mile back, because it might be at the end of the day, and on their way home?—On the average; it would not be on the way home for everybody.

17312. On the average it would not be a mile there and a mile back. We found that system in London, and it was said to work well, so far as it was tried?—Yes; the only objection is the waste of time. I don't put it forward as a serious objection.

17313. At all events you think whatever might be the difficulty or cost, it is desirable to face that cost in order to provide this kind of education in the National schools?—Yes.

17314. MR. MOLLOY.—I think you mentioned that you had some experience of National schools, prior to the introduction of the revised system?—Yes, sir.

17315. In what part of Ireland?—County Derry.

17316. Are you able to contrast the system then in force with the present system of teacher fees?—My knowledge of the present system is very largely hearsay, but you can hardly live in the country without knowing a great deal about it, and I sometimes do go into a school and see what is going on.

17317. You attended a National school in the County Derry?—Yes, Ballyvaughan, near Garvaghy.

17318. Were the elements of science taught in that school?—No, I learned nothing higher than Euclid there.

17319. And algebra?—No, very little.

17320. Memorization?—Slightly. Euclid was really the strong point beyond the ordinary things.

17321. Book-keeping?—Yes, slightly.

17322. You are in favour distinctly of the introduction of manual instruction in wood into National schools at present?—Yes, distinctly.

17323. And on the other hand you would not interfere with the existing course?—No, I would add to it. I say you have plenty of time. We really did not work at the National schools in any time, I don't know what they do now, they may be very much more industrious than we were, but I don't think we did on boys' work in the day.

17324. CHAIRMAN.—An objection was raised at Waterford by a National school teacher, who had tried and given up manual instruction that the children were so tired from the work they had to do before they came to school in the morning and after they got home in the evening on their parents' farms, that it would be impossible to add to the amount of work they did in the school?—I really don't think there is any strength in that objection.

17325. MONSIEUR MOLLOY.—Change of work is as good as a rest?—Yes, I speak for myself, but we really idled in the National schools.

17326. CAPTAIN SNAW.—What time do you get to the National schools in the morning?—Ten o'clock.

17327. Nominally or really?—Oh, really.

17328. The roll is not closed until a quarter to eleven?—I really don't remember when the roll was called in my school, it is a long time ago, but I know I attended very regularly.

17329. From the conditions of the country do you think there is anything to prevent the schools from commencing earlier?—Ten is a fair time to begin. The point I want to insist upon is this, that really the children do not work during the hours they are there, and under the present system it cannot be otherwise, because one teacher is not able to manage a school, as many of them have to do.

17330. MR. SUTHERLAND.—You would have agriculture taught to the children in the National schools, I think you said?—Yes.

17331. At what age?—I think instruction of that kind might be begun about ten.

17332. You think that children from ten to eleven can usefully be taught agriculture?—I think they can.

17333. When would they be expected to take to the practice of agriculture?—I would have them to do so almost from the start, they are at the practice of agriculture in their own father's places in the country schools.

17334. PROFESSOR FEEGHERALD.—You have had some experience of workmen in Galway?—Yes.

17335. Do you find as a matter of fact that they are now trained to be accurate in their work?—Well, I have some very good workmen, I have one very good carpenter who is able to make a drawing for his own work and works very well indeed.

17336. But the general run of workmen, do you think they are as accurate as they ought to be?—I think in Galway, in carpentry, we have very few workmen.

17337. Then you don't think it would improve the workmen that are good workmen to introduce draw-

ing into the National schools?—It would improve them and probably would increase their price.

17338. Do you think it would be desirable?—Certainly.

17340. Do you think that introducing some manual training, such as elementary woodwork into the schools would make them better workmen?—It would.

17341. Do you think there is room for more carpenters?—Certainly. There is plenty of room for workmen in Galway just now, we have a great difficulty in getting men here.

17342. And any way there is room for better ones?—I want to say nothing against the Galwaymen, but the difficulty in a place like this, and there is a difficulty, is produced in this way, that the good men go somewhere else. We produce plenty of good men in Galway, but they emigrate from Galway, leaving the worst men behind.

17343. But the worst men would be improved if we had manual instruction in the schools?—They will, because you will produce a greater number for selection.

17344. The agriculturist that you teach to children of ten years old, do you think it would be better to have it in the nature of object lessons or to learn it out of a text-book?—I think I would give them the real work that they have at home, and when you talk to them about agriculture in the right way you talk about things that they understand perfectly well, because they see the whole farming operations with their parents at home.

17345. What is the use of talking to them about things they know perfectly well?—I would show them a better way. If they had a plot of ground and

you showed them how to cultivate it, they would compare it with what they do at home and see the difference.

17346. You think you would have the teachers to be trained to be good teachers of agriculture?—Yes, but I would not train every teacher of a National school to be a farmer. I would try to reproduce in the National schools that the children attend, as economically as possible, the conditions in the higher schools, where you have got a separate teacher for each subject. I would try to go as near to that as possible.

17347. Then you think Father Lynskey's proposal to have example plots attached to the schools would be good?—Certainly.

17348. That is to say plots that were examples of good farming?—I would have the schoolmaster's garden.

17349. His proposal was that there should be example plots owned by farmers in the district?—We are building a good many teachers' houses there, and I would have a plot like that in connection with the teacher's house and give him fifty in it, and I would let him have the crop.

17350. Would that teacher manage the farm in connection with the peripatetic teacher?—The peripatetic teacher would show the boys what to do, and the boys would do the farming.

17351. How would the teacher who owned the residence and plot be willing that a teacher should come from the neighbourhood and manage his plot for him?—I would not give him an option, if it was managed by the Department the teacher would come, and the resident teacher would not think any more of it than of an inspection coming.

Galway.

Oct 6, 1897

Mr James
Parry, M.P.

THIRTY-NINTH PUBLIC SITTING.—THURSDAY, OCTOBER 7TH, 1897.

AT 2 O'CLOCK, P.M.,

At the Railway Hotel, Galway.

Present:—THE RIGHT HON. THE EARL OF BELMORE, G.C.M.G., in the Chair; THE RIGHT HON. C. T. REDINGTON, M.A.; THE RIGHT REV. MONSIGNOR MOLLOY, D.D., D.S.C.; REV. HENRY EVANS, D.D.,
REV. HAMILTON WILSON, D.D.; PROFESSOR G. F. FITZGERALD, F.R.C.D.; STANLEY HARRINGTON,
ESQ., B.A.; W. R. J. MOLLOY, ESQ.; CAPTAIN T. B. SRAW; and J. STRUTHERS, ESQ., B.A.;

with J. D. DALY, ESQ., M.A., Secretary.

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Rev. J. COURTENAY CLARKE, B.A., Presbyterian Minister, Galway, examined.

17358. CHAIRMAN.—You are, I believe, the Presbyterian Minister in Galway?—Yes, my lord.

17359. And you have paid some attention to the subject of our inquiry?—Yes. I have given some attention in various ways. I was taught in a National school to begin with, I was brought in contact with it as a minister, and then I have had—not just recently—but I have had some experience of the work of the technical school here, and I know something of the North and something of the West.

17360. And do you think that such changes should be made in the present educational system as would make it more effective in fitting boys and girls for their life work?—Yes, I would think that that is really the first thing that should be looked into. Could we not make the present programme more effective for that purpose? For instance, take reading. I think that very easily a wider course might be introduced, say for senior boys and girls, and that they should be brought intelligently into contact with the literature of their country, and put in the way to follow up this reading in after life. I think the course in reading is too narrow to produce boys

that will follow up that as a matter of study and interest in after life. Then in grammar and geography, for instance. I see that it is mentioned that these should be dropped out, at any rate dropped out as compulsory subjects. I think that would be a sad mistake.

17361. Even in their present form of being taught?—Well, their present form is certainly not the best by any means.

17362. I think that the suggestions that have been made to us, are not that grammar and geography should not be taught at all, but that they should be taught in a more intelligent way; for instance, instead of learning lists of names of towns and villages, that geography should be taught more by the maps; that pupils should know the maps, and as regards grammar, that grammar should be taught incidentally in writing and in English composition, but not in the form in which it is taught now?—In regard to grammar I would not agree with that; for instance, take the definitions of grammar that come pretty hard on boys or girls, they come in very useful as they proceed with their studies, and it is just at the time when they

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learn them easily, and afterwards they would learn them with great difficulty and be very unwilling to learn these definitions.

17363. Do you find that notwithstanding the definitions of grammar being taught in the schools, that in practice that is counteracted by the way of talking that they are accustomed to hear at home, and that even the teachers themselves out of the school talk in an ungrammatical way?—Yes, that is quite true, but then you have the difficulty there that the school only lasts 4 or 4½ hours and the boys are in their homes and in their surroundings, and of course, that is the prevailing element, and you will have to deal with that. It will take you a long time before you make much progress in that direction. Besides a boy may know grammar fairly well, and yet when he gets into the home circle he may drop back into the old lines.

17364. How would you suggest that should be corrected?—It must be a matter of time, but in regard to grammar, of course I would have changes in the manner of teaching. My own impression is that if a teacher learned a little Latin, and saw the course that is pursued in acquiring a grammatical knowledge of Latin, that he would be in a position to teach grammar much better than he is.

17365. In addition to matters of that sort do you think that where it is practicable, some form of manual and practical instruction should be introduced, such as—for boys, woodwork or else experimental science, and for girls, laundry work, and cookery work, and domestic economy?—Yes, I am very favourable to something of that kind being introduced where it is practicable at all.

17366. Where do you think it would be practicable, taking town and country?—First of all I think that one section of the subject is comparatively easy. I think a good deal could be done for girls with your present machinery, with comparatively little change. I think that side of it is comparatively easy, both in town and country. Then I think that if we are ready to spend a fair sum of money it would be easy to deal with towns, I think that could be arranged for. The difficulty seems to me how you are to arrange to deal with the country districts in manual instruction for boys.

17367. On account of the expense?—On account of the expense. Of course there are two ways, I would be in the meantime favourable to the central teacher going out and visiting schools.

17368. Before you come to the teacher you must come to the building, you agree that the English system would have to be introduced, of having a separate room?—Oh, for instance, you could not teach woodwork in the present schools as far as I know, you are bound to have a separate building, or at any rate a separate room.

17368a. Sometimes a room may be procured, as it is the case in Sweden, where they have not funds to build a new building, in some house adjoining?—Of course.

17369. Having got the room, do you think that you would require to have a separate teacher, or could the ordinary teacher be trained, as is done in the large towns in England, to teach manual work in addition to the ordinary work of the school?—I would prefer the school teacher if he could be got.

17370. What do you mean by the school teacher, distinguishing the artisan from the teacher?—I mean such a man as they brought to the technical school here, and that Father Lally described yesterday, that is a man who has studied something of the science of the subject, as well as being well up in the practical manipulation.

17371. You think that to take an ordinary artisan in a village to teach in a school, would be a failure unless he had been trained to teach as a teacher?—I am not quite prepared to say that it would be a failure in all cases, but with a good many of the sen-

sans I think it would not be desirable to bring them into close contact with the life of boys.

17372. And do you think, also, with other people, that they would not understand how to maintain discipline, and would not understand the methods of imparting even what they know themselves?—You might get an odd man who could, but taking them as a rule, I would be afraid of that.

17373. How would you suggest that fully-qualified and experienced teachers should be provided, of course, by degrees? because we admit it cannot be done all at once?—I listened to the evidence yesterday, there was a suggestion about teaching on Saturday, bringing teachers into centres, teaching them on Saturday. I have not much faith in that. I think you just get a little veneering of the subject, and it would not serve in very much.

17374. We saw a class of that sort in Penrith in Cumberland, but it is fair to say that the actual teaching had made no progress in the county. I believe there was only one of those teachers who was really applying his knowledge so far, whatever might be done in the future when funds were provided for procuring rooms and materials?—I think you are under the necessity of looking to the coming teacher rather than to those already in the field; of course, there are some of them who would acquire sufficient skill and knowledge, but take it as a rule, I would not rely much on the teacher who is formed from these Saturday lessons, acquiring such skill as would be worth very much. And then there was yesterday the suggestion of a central school, say, here in Galway; the idea was to detach, say, the Model School from primary education, and to start a central school there. Well, I did not quite follow all that was involved. For instance, it was said that it would be a good place to teach agriculture, and have an agricultural focus. That would mean that you would have a residential institution, a non-scholastic institution, and I think if there is any plan of that kind to be pursued, the much better way would be to re-organise the Model School, and begin with your pupil teachers.

17375. I am not familiar quite with the system, if you would explain it a little more fully?—For instance, take a model school in the North of Ireland; they have about ten pupil teachers on the boys' side, they live in the school there for two years as a rule; now they have the whole afternoon, it would be very easy to get instruction for them, and they are just of an age when there is not special pressure, and I believe a great deal could be done in making them efficient teachers by and by.

17376. Is that the case in all the model schools?—I would not like to answer very decidedly in the presence of these gentlemen, but I think it is in the Northern model schools. I think, in that way, you would come at—I don't know the number exactly—but in a short time you would have a considerable number of teachers who could do good work in this matter of manual instruction; then, of course, it could be followed up when they go to train at Marlborough-street. My feeling about Marlborough-street is—I don't know enough of it to state very decidedly—but the teachers are under pressure there for their classification, and I don't think they could give the same time to it that a pupil teacher could.

17377. You think it would be better that a pupil teacher should be what you call half-trained in the model school in his county, and then begin in Marlborough-street, with a certain amount of the knowledge he has to acquire already acquired?—Largely in that direction.

17378. Coming to another matter, do you agree with the suggestion that was made yesterday, I think by Canon Lynskey, that in one district, manual instruction might be useful, but in a district like his, recommending and learning help would be more useful?—Yes, I think subjects appropriate to the neighbourhood should be taught. Woodwork might be very largely taught, because it is very generally useful;

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for instance, to set up a school for agriculture here in Galway for the pupils of the town would be, to my mind, most absurd; what you might do in Galway was—and I fancy that the gentlemen to-day, as they went around, would see that there is a necessity for it—you might give an example of cottage gardening, and that would be very useful, and serve a splendid purpose, if you could induce the people to give attention to cottage gardening. But in agriculture, we have not those who need it in Galway.

17378. Rev. Dr. Evans.—You would be, Mr. Clarke, in favour of the introduction of manual instruction into the primary schools?—Yes, using that as a very wide way to include dressmaking, or sewing, or cookery, or woodwork, and so on, according to the needs of the neighbourhood.

17379. You would not be in favour, in order to make way for it, of the omission of English grammar?—Oh, certainly not.

17381. And in giving that opinion, you are speaking from the whole experience of your life, including early education?—Yes, I am strongly in favour of English grammar being better taught, but even so it is taught now, I believe it serves a very useful purpose.

17383. Well, no doubt, we shall come to teach English grammar better and geography better: it is not a question of improved methods, but a question of retaining the subject. You would not allow it to be abandoned in any English school?—It would be a step backward.

17383. Do you know anything of the work that was described to us yesterday by Father Lally?—Oh, yes, I knew something of it—at least I knew it pretty well about a year ago.

17384. Is that work, do you think, the kind that we could spread generally through the schools and through the country?—Well, you would require to be prepared to spend a great deal of money; that school has an income of, say, £500 a year, and you can easily see that to spread that through the country, needs a good deal of money.

17385. But you believe such instruction as is given there would be useful throughout Ireland, if it could be had?—Oh, yes, it would be very useful indeed.

17386. However, of course you could only have a school of that kind in a large town?—I don't think it would be possible to have it anywhere else.

17387. If manual instruction were introduced, do you think it could be taught by anybody but the teachers?—Well, I don't think that we would be prepared to spend the money, but, if you are prepared to spend the money, it would be better taught by others.

17388. You say that school costs £500 a year. If you were to provide one such school in each county in Ireland it would come to about £30,000 a year. Do you think that one school would be enough in each county?—Take this one school here, it simply benefits the town of Galway.

17389. Then you don't see your way to having more schools in a county like Galway, which has only one or two other big towns?—I think unless there is Imperial aid, apart from the £250 given by the Science and Art Department, there would be a great difficulty about the expenditure here. For instance, if you take Ennis, and if ever the union there, there is a rate, which is spent entirely for the benefit of Ennis, I fancy that there would be an outcry very soon on the part of the rural districts, that they were giving money and getting no value for it.

CHAIRMAN.—I can quite agree with you there, partly because a great part of the Union of Ennis, of which I am Chairman, is not in the county Fermanagh at all; a large part is in Co. Wick.

17390. Rev. Dr. Evans.—You think, at present at all events, that the town of Galway is especially benefited, but will not thus influence overflow more or less gradually to all the localities about?—Well, the overflow will be very slow; the tendency is the other way—from the country to the town. There is very little tendency from the town to the country.

17391. But could we not have teachers trained here; could not occasional teachers come in here and get instruction, and take it with them?—As I was indicating, I would not lay much stress upon that. I think if a man is to know anything about the subject worth talking of, he must give considerable attention and time, and he must really begin young.

17392. Rev. Dr. Wilson.—Is the general intelligence of National school children as great as you would expect from the instruction they have been given?—I don't know that I could answer the question in that form. I don't think it is as great as I would like, and I am decidedly under the impression that their education should be broader.

17393. You would mean by that a modification of the school books?—I would certainly bring them into contact with literature generally, and let them see something of the fields that lie beyond.

17394. Not confine them to school books?—Certainly not, school books are very good in their way, but not enough.

17395. You heard the evidence about the Model School yesterday; do you agree with Father Lally in his testimony?—Well, I think Father Lally proved yesterday that I was rather a wise man, because I opposed the giving of a portion of the Model School to the Technical School, because I said it was the thin edge of the wedge, and here you had yesterday a broad request for the whole building, without any intimation that there were children there that would have to be educated on the roadside if that were carried out. The work done by the Model School is very superior. I will give you this fact: the science results in connection with the Technical school as Model School teaching—I mean by it that it is Model School pupils. I have not seen the reports, because I am not on the committee; but I think I am warranted in stating that.

17396. What do you mean by that?—I mean, for instance, in connection with the Science and Art scientific results, that those who passed were Model School pupils.

17397. Mr. STRUTHER.—In such a subject as mathematics?—Mathematics is the main subject, they had previously been taught mathematics in the Model School.

17398. Before they entered on the several classes in the Technical School?—Yes.

17399. Captain SNAW.—They have the same teacher, have they not?—They have the same teacher. Then I was glad to hear yesterday that a great many of the children attending the Technical School were Protestants; there, as a rule, are educated at the Model School, and it only proves that the education at the Model School is of such a character that it induces them to enter into these wider fields.

17400. Is there sufficient provision for the education of Protestant children in Galway without the Model School?—Well, there is practically none.

17401. Professor FERRAGHNO.—Do you think that the teachers would be favourable to the introduction of manual training and such like things into the schools here?—Well, I don't think I could give you an answer so that that would be worth much.

17402. Do you think the managers about here would generally be favourable to it?—I think the managers would be.

17403. Which do you think they would be more favourable to—the introduction of manual work or of science and object lessons and things of that kind?—Well, I don't think that my answer to that would be worth much; I have not gone into it sufficiently.

17404. Do you think there would be time for introducing some more subjects than at present are taught in the schools?—I think that if the Commissioners of National Education gave more teachers, that there would be plenty of time; I think that the time is sufficient if the teaching power was such as is required, but I don't think it is at the present time.

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17405. CHAIRMAN.—You think that the schools are undermanned through Ireland generally; that the classes the teachers have to take charge of are too many and too large?—I think so; I think in that direction the Commissioners have been too exacting.

17406. PROFESSOR FITZGERALD.—In the girls' schools they are expected to do an hour a day at needlework, that is five hours a week; in another country do they do five hours a week needlework; three hours a week needlework is the largest we have come across anywhere?—I think three hours would be quite sufficient.

17407. Then there would be time for girls doing something else?—Yes.

17408. In country schools boys learn agriculture, and in town schools they don't learn agriculture; what do they learn in town schools at that time?—I think in some of the town schools they do learn agriculture.

17409. Then there would be time if they did not learn agriculture, for doing some manual training?—Yes.

17410. Is the roll called at 11 o'clock in the schools in Galway?—I could not answer that.

17411. You said it would be necessary if there was manual training that there should be a separate room?—I think so, for manual training as a rule, sewing can be done in the same room, but I don't think woodwork can be done in the same room.

17412. Take such things as cardboard work and wirework?—I think with care those things could be done in the same room.

17413. If the woodwork were done out of school hours, could it not be done in the same room; could you not move the benches?—Not easily, because take your schools, as a rule they require all the accommodation they have—they are rather cramped than otherwise.

17413a. If it was done out of school hours the first, second, and third classes would not be in the school—it would be only the upper classes?—Then you would have to bring the benches from outside.

17414. You would have to pile the benches, or make some arrangements, or fix tops on the benches?—I think, as a rule, the schools are crowded enough without adding that element; I would rather go in a direction that would tend to increase the general tidiness.

17415. If you could get money it would be better, but would it not be possible to be tidy even though you had an untidy work going on?—It would be difficult.

17416. Have you experience of the agricultural teaching in country schools?—Well, not much in the country schools; I had a boy who was taught it in a town school, and I knew something of it in that way, but I would not say that he is a very proficient agriculturist at the present time, though I suppose he passed in due course.

17417. Have you considered whether it would be possible to modify the course of agriculture to make it more useful?—My idea of that runs in this direction—a good many things that are taught can be seen every day and every hour, and you don't need to teach them. Then there are a great many things that are not taught very methodically, and I would be disposed to teach those things specially. For instance, we need to have it impressed upon the rising generation that weeds are not a profitable crop, and I think that that lesson should be brought home to the boys every day and every hour, and practically, if possible. Then take here, the West of Ireland. I think there is here a great leakage in the matter of manure—not looking after the manure during the winter, and doing the best they can to make a good manure heap. I think that teaching should be in that direction, to show them the value of that. And there is a great loss all through the country through the exposing of implements during the winter, harrows left out during the winter only half the time. Then paint is a very cheap thing, and everybody can paint and it would add materially to the

length that implements can be used, if a little paint was used on them, and so on; I think a great deal could be done in these directions.

17418. Would it not be better to get the children to pay attention to those things when they grew up, and train them in habits of observation?—That would be a splendid thing to do in the school.

17419. Don't you think it could be done by means of object lesson demonstrations in which the children were taught to observe—for instance, making them collect plants and observe the differences between them?—I was just thinking over that to-day, and I thought a great deal could be done if a teacher just said to his class, "Now bring me such a plant to-morrow."

17420. If they made collections of plants and observed injurious insects and fungi?—It would be very useful.

17421. That would teach them to observe?—Most useful—a good deal better than the present agriculture.

17422. Mr. STRUTHERS.—Don't you think there is a pretty widespread misunderstanding about manual instruction, that it necessarily means woodwork?—I think there is a great deal in that direction.

17423. And that when we speak of manual instruction we are speaking of things which require a separate room, and expensive apparatus and benches, and so on?—Yes.

17424. Of course you are aware that there are other forms of manual instruction to which Professor Fitzgerald has just referred?—Yes, I don't know a practically, but I have heard of it.

17425. Such as wirework and cardboard work, which can give most valuable training in accuracy, and which could be brought into relation with drawing?—Yes.

17426. I suppose you would like to have drawing taught generally?—Oh, yes, I would have drawing taught in every school so soon as I could get a teacher who would teach it.

17427. Have you formed any idea of the nature of that drawing instruction?—I would have a fresh start drawing and then I would have practical drawing.

17428. CHAIRMAN.—You mean geometrical drawing?—Of course, that is for the serious, but, for instance, I would like a boy's idea tested through the drawing lessons to measure distances and so on.

17429. Mr. STRUTHERS.—You would introduce a good deal of scale drawing?—Yes, it would be in that direction.

17430. Plan and elevation?—Yes, and I would ask a boy to do things that he would be likely to do in after life, drawing the plan of a field or of a farm.

17431. You would teach it in connection with conversation?—That would be part of it.

17432. But the making of actual objects in cardboard, for instance, would be a very great help to pupils to understand what drawing means?—Oh, it would, most parents do something in that direction with their younger children.

17433. Would you have the kind of agricultural instruction that you spoke of a moment ago, such as teaching them the value of painting implements to preserve them from the weather; you could not have that taught practically in schools?—Oh no, but a teacher could easily bring it under the attention of his pupils.

17434. But is not that a matter of common sense, that any farmer of common sense would know?—I am sorry to say that common sense is not generally put into practice.

17435. Then don't you think our education should be of a character to develop common sense?—That is what I started with, that our education should be more practical, reaching away up to what a pupil will eventually come to.

17436. But not in the sense of teaching him little bits of information, which are useful for this principle and that principle?—Oh no, that is a matter of minor importance, if you get the boy to look at things—look around at things—he will find his level.

17437. What you wish to produce is general common sense in the pupil rather than special knowledge?—But at the same time, whilst I would begin with that, I would give them, if the opportunity at all arose, I would give them the special knowledge.

17438. But the special knowledge acquired by one pupil is very different to the special knowledge acquired by another, according to the trade or occupation he is going to fill?—Yes.

17439. Is it not a pity to introduce a uniform programme for all the higher pupils in the school?—I say the subject should be appropriate to the neighbourhood, should look to the neighbourhood.

17440. Take a neighbourhood in which there is not-mending, there are many pupils in that district who are not going to be fishermen, you would not insist on all the pupils learning that?—Certainly not, I would not insist on all the pupils learning any of this manual work.

17441. Would it not be better to have that instruction dissociated from the instruction in an ordinary elementary school, and taught specially to those who want it in a special school?—Yes, but if you want to get at the youth of the neighbourhood, you must teach them in connection with the National school.

17442. Could you not teach them in the evening, the pupils who have left school?—Oh no, you could not do much in that direction.

17443. What would be the difficulty in getting pupils to attend in the evening to learn net-making?—For instance they might be living in the country, and have to come three or four miles to get to a centre.

17444. Would not that be an extreme case?—I don't think it would be an extreme case, but I am looking at what would happen in a good many cases.

17445. But there must be a good many cases where this is not the case?—Then in addition to that, of course boys, when they get home and get into the routine of home life, have little things to do, and there is pressure in one direction or another, I am very much afraid you would not at all reach the youth of the community in that way.

17446. CHAIRMAN.—Is it not the case, in your experience, Mr. Clarke, that in the country districts, at all events in the North of Ireland, people go to bed very early?—They go to bed very early, and the young sons of farmers are under great pressure in the matter of work, and that pressure is becoming greater instead of less. I don't think you need lay much stress on getting them together in the evening.

17447. Mr. STRATTON.—On winter afternoons?—Oh no, labour is too costly now to get much in that direction.

17448. That applies specially to districts like Connemara, where you have a scattered population and exclusively farmers, and child labour is much used, but there must be other districts, and particularly towns where there is special instruction of the kind you refer to, that could be given in Convent schools?—I admit you could do something in towns in that direction.

17449. Evening schools are not numerous in Ireland at present, have you thought of any plan by which they could be encouraged?—In this matter of manual instruction I don't know any better plan than Father Kelly has taken part in introducing here—a school of that kind is about the best way you could introduce it, I think.

17450. Captain SHAW.—You said, I think, that you did not consider that lessons on Saturday would be effective in instructing the teachers?—Yes, I said that it would be really a little venturing in the subject.

17451. But if an individual wishes to get up a subject he really does not require much outside help, a man of grown age who knows what he wants can do some of the learning for himself?—Yes, with such a man you will not have much difficulty, but here you

are introducing woodwork, and it may be that there are only two men in the whole district that have a taste for woodwork.

17452. But if the teachers have a desire to learn would it not be a sufficient method of learning for three?—It may be, but my own impression is that it would not amount to much.

17453. Do you think the same remark applies to drawing?—Yes, to a large extent; drawing cannot be learned in a short time.

17454. But the drawing that would be required for an elementary school is not of a very extensive nature, it is more method than actual execution in the case of the teacher?—Still, if a man is to teach drawing effectively he would need to be beyond the elementary stage.

17455. He would require to know the method of teaching, but he would not require any great skill in execution?—I think he would require considerable skill, so far as my knowledge of drawing is concerned. I think, for instance, that the National Board did a very good work in the matter of teaching drawing when they sent down specially qualified assistants to the Model schools, the results there, so far as I know, were exceedingly good, but those were well-trained men.

17456. How long did they stay there?—Some of them stayed a considerable time.

17457. What is a considerable time?—They may have stayed three or four years; most of those men were looking forward to head masterships, or perhaps studying for inspectorships.

17458. And you don't think the ordinary National school teacher can be instructed sufficiently in drawing to teach it in his school?—My hope is not great.

17459. Professor FLEMING.—Then you think it is an objection to the technical school in Galway that the rate is levied on the union?—I am not making an objection to it.

17460. You think it might be taken as an objection to it?—I think very likely that if you tried it all over Ireland the objection would be raised, and knowing something of the Northern mind, I take for instance, Enniskillen.

17461. What is the most distant point of the union from Galway?—I am not the best authority on that, but perhaps it is twenty-five miles.

CHAIRMAN.—The Enniskillen Union is about forty miles in one direction and fifteen across.

17462. Captain SHAW.—If technical schools are to be established what interval do you contemplate they should be from each other in Ireland, you cannot have them every four miles apart?—Oh, no, that was not the point with which I was dealing at the time; the point with which I was dealing was the income of the school, how it was derived, the likelihood of this income being got up in other directions in the same way, and so much multiplied on that principle.

17463. Do you think there would be any serious difficulty for anybody living in the union to attend a certain number of classes?—I do think there would be a most serious difficulty.

17464. It would certainly serve some of the districts beyond Galway for a radius of six or seven miles, would it not?—I am afraid in the West here we have not sufficient energy and enterprise to go these six or seven miles, it would be very desirable that we had come to that point, but we are not at it.

17465. The other argument would be that only the people who use the school should pay for it?—I am not pressing that as an argument, the point with which I was dealing was the likelihood of this method being generally adopted.

17466. From November to March in Connemara, what are the people doing that they could not attend an occasional class in evening schools?—I don't know that they could not attend, I am not so well acquainted with Connemara as with the North, but if you take any man who has a farm, there are the cattle to be looked after and various things of that kind, and I

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know they are utilising the children even at an early age for these things, especially in the evening hours.

17467. They only utilise them at special times of the year!—Cattle have to be looked after the whole year for that matter.

17468. You cannot look after cattle the whole day!—Of course they cannot, but you will find, as a matter of fact, that a good many of the young people are engaged in the ways I tell you.

17469. Mr. HANNAH.—I suppose the children of your denomination are in considerably better circumstances than one would find in the ordinary National schools around here?—Well, yes, they are.

17470. Do you think the parents of these children would like the introduction of manual instruction?—I think they would like it very well.

17471. Because we have heard that objection in some places, that they probably would not like it?—I don't think there would be an objection to it so long as the progress of the children in other directions was not interfered with.

17472. Do you think there is too much learning by heart in the National schools, I mean learning things by rote?—I don't think so, I think that possibly, if there is anything in which they err, it is in giving too long written exercises at home. I don't think the children are burdened by committing to memory, they may not do it as intelligently as they ought.

17473. What I mean is this—do you consider they are taught to think sufficiently in the ordinary lessons?—I do not.

17474. What do you think is the cause of that, is it the fault of the inspection?—I think that the inspection could be changed a good deal for the better, at the same time I want to say that I don't know any class of men who are more conscientious or better up to their work than the inspectors I have met with in Ireland, but I think they are placed under very great difficulties. The inspection, as I knew it in olden times, was quite a different thing. An inspector came into the school, he came in unexpectedly very often, and he would say to the teacher, "Never mind, just go on," and instead of asking questions himself, he stood there and watched the routine work of the school, sometimes for an hour and sometimes for two hours. Then I have seen him take up a class and teach a class in geography, just go through the teaching of the class; of course he must have meant to show the teacher how to teach it and various things of this kind. Then he would examine a class and pass on to another school. I think that now, owing to the system of results examination that we have, the inspector is not at all the help that he might be to the teacher. The inspector should be a helper and example to the teacher.

17475. Too much of an examiner, you think?—He is too much of an examiner.

17476. Mr. MORAY.—I did not quite catch your meaning when you said you thought the Model School might be utilised for the instruction of pupil teachers in agriculture?—Generally, I mean, for this whole manual instruction, you have teachers when they are young and not under special pressure for class examinations, and so on; they would have sufficient time in the evening, and you could likely turn out competent hands with the teaching that they would have in Marlborough-street.

17477. But you seem to confine that practically to pupil teachers?—Oh, yes, the fact is I think our ancestors were fairly wise in establishing model schools, that is my view of it, and, if we were doing right, instead of blotting them out, we would multiply them.

17478. No doubt you are aware that there are some model schools in Ireland that have no residences for pupil teachers?—Yes, I know that; that is a want, and that want should be supplied.

17479. And your idea could not be carried out now, at all events unless the residences were provided?—No, not so easily.

17480. With regard to the technical school here you appear to me to think that the pupils who succeed at mechanics, that is under the South Kensington examination, are principally from the Model School?—Yes.

17481. Now, to-day we found that there were thirty-eight boys in attendance that would mean somewhere about eight or ten simply in the senior classes, in which alone mathematics would be taught; consequently the number coming from the senior classes could not well constitute a large number of successes under South Kensington; and therefore they must have come also from other places?—I don't follow your reasoning in that matter, but it is a matter that can be easily settled, that is the success in connection with the science classes. My position is that they are Model School pupils.

17482. Some years ago there was other provision for Protestant pupils in town here as well as the Model School, I recollect years ago the Erasmus Smith Schools in operation?—They are not in operation now, and have not been in operation since I came to Galway, that is sixteen years.

17483. Professor FITZGERALD.—That is the Erasmus Smith Primary School?—Yes.

17484. Mr. MOLLOY.—It was called the English Department, what became of the building or institution? It was a very large building and largely attended also, exclusively by Protestant pupils?—So far as I know it is now in the hands of the Protestant Episcopalian congregation.

17485. And would you not say, therefore, available for the instruction of Protestant pupils?—Not, certainly, available for the instruction of Presbyterian pupils. I have no more interest in it than you have.

17486. May I inquire have you ever been the manager of a National school?—Well, technically I have not been, but when I was in the North of Ireland I was an assistant to a very old man, and he retained the management, but I supervised the school, I did not want to let him feel that he was getting beyond the work.

17487. You are not in favour of the results system as at present carried out; I see you prefer the style of inspection carried on prior to the introduction of the results system?—Yes.

17488. That also of course would mean a change in the form of examination of pupils and payment of result fees?—Yes, and I am strongly in favour of some change.

17489. You would favour class examination of all the pupils on the rolls rather than a mere selection of pupils that attended a minimum number of days?—Yes, it must be in that direction that my plan would go. One thing about the results I would like to mention, I think it is very hard upon a boy who attends the full year to keep him in a class when for three months, perhaps, he should be promoted—it is crushing the best of the boys, he is not only being kept back, but he is being wasted in idle habits during the last three months of his year.

17490. Of course, also, you are aware that a large number of pupils never come under examination, that is those who have not attended the minimum number of days?—Yes, and not only that, but those are the pupils who need the most attention and very likely get the least.

17491. And by a change both in the form of the inspection and of the payment these would get the benefit of instruction?—These would come under examination, and it would be the interest of the teacher to give them proper instruction.

17492. Monsignor MORAY.—I think the pupils of your denomination go chiefly to the Model School for their primary education?—Yes, and some of them go to the Erasmus Smith's, that is the grammar school.

The other school to which Mr. Molloy referred is simply a building, there is no school organisation.

17493. CHAIRMAN.—It was not vested in the Erasmus Smith Board at all, I think they only gave the salaries—I cannot tell you that.

17494. Mr. MOLLOY.—Years ago the Erasmus Smith English school at Wood Quay, as distinguished from the one on the Lifford, was a primary school—I understand so, but it was before my time.

17495. MONSEIGNEUR MOLLOY.—I suppose those who go to the Erasmus Smith School go for intermediate education—Intermediate education.

17496. And those who want primary education go chiefly to the Model School?—Yes.

17497. What number are there at present?—I really could not give you the number; we have not so many there as some time ago.

Mr. RIGGSWORTH.—Number of pupils on the rolls on 31st of December, 1896, eighteen Presbyterians.

17498. MONSEIGNEUR MOLLOY.—What proportion would they bear to the school-going population of Galway?—They would be a very small proportion.

17499. Does the returns it appears that there are about 3,000 children in the primary schools?—There may be.

17500. Then those of your denomination would be 1 per cent. of the whole?—On that basis they would only be.

17501. I understood you to say that you are in favour generally of the introduction of manual and practical teaching into the primary schools of Ireland?—Oh, yes.

17502. And the only difficulty you seemed to apprehend was the cost of such teaching?—Yes, if certain methods were pursued.

17503. What does the education of a child cost in the present Model School?—You can easily find that out.

17504. I have found it out. Last year the total expenditure was £303, and the average attendance was 88, dividing 88 into £303 the quotient is £3 14s., that is the average cost per child in the Model School. In the ordinary National schools in Ireland, the average cost per child is £2 2s. 8d., therefore there is a very large excess of expenditure at present on the education per child in the Model School as compared with the National schools. It is more than double?—Yes, according to these statistics, that is so.

17505. Would not that suggest that some modification of the system is desirable, by which a larger amount of educational work should be obtained for the existing expenditure?—Yes, of course that is the general question of model schools.

17506. And the particular question of Galway?—Yes.

17507. Does not this consideration seem to justify the efforts made by Father Lally?—At the same time I think I am right in asserting the rights of the Protestant children.

17508. Certainly, but the State would be justified in trying to get more value for its money?—Yes.

17509. And Father Lally has found a means of doing that?—Would you just allow me to say that, as far as I can see, the plan suggested by Father Lally, is just the plan that would cost the State a great deal, I am not much up in statistics, but if any of the gentlemen here look into this question of agricultural farms they will find that the Commissioners have lost in various places very large sums on these agricultural farms, and have been very glad to get rid of them at a very considerable sacrifice, I heard of one case where they dropped £5,000.

17510. Professor FITZGERALD.—Would you say that it was the Treasury that was very willing to get rid of them, not the Board?—I don't know that.

17511. MONSEIGNEUR MOLLOY.—Coming back to the Model School, the cost per child is £5 14s., as compared with £2 2s. 8d. in ordinary National schools, and

therefore it would seem desirable to make some modification of the system, by which more value could be got for the money?—I am not going to dispute that proposition.

17512. CHAIRMAN.—If you had double the number of children in the Model Schools the same teaching power would be sufficient, and therefore you would halve the expense?—Yes.

17513. MONSEIGNEUR MOLLOY.—And Father Lally's plan will double the number?—I don't know that, all that Father Lally is doing is he is using two or three rooms.

17514. Which were not used before?—But then the expense—if you go into the matter of expense—the expense connected with this technical institution is very considerable when they have an income of £500, and that is being spent here.

17515. But the point I wanted to bring out is that the present expense is enormous as compared with that of an ordinary National school?—Well.

17516. And that this expenditure cannot be defended unless more educational work is done?—Now that the three rooms have been secured, I am not at all fighting that, but the proposition was that the whole place should be taken, and that there should be no provision for Protestant children at all; that was the proposition I was dealing with; I was not dealing with the other proposition at all, because it is an accomplished fact.

17517. I understood you to say you would be in favour of grafting a system of manual and practical instruction upon the model schools?—Oh, yes, and I think it is in that direction that you will move most effectively, and I said at the same time, that of course there might be modifications of the model school system. What I said was that these central schools, example schools, instead of being done away with, should be multiplied.

17518. Mr. RIGGSWORTH.—You said, I think, that if the Model School were turned into a higher school, the Protestant children would be turned on to the roads?—Well, so far as any provision is made for them, I say—

17519. Are you not aware that they could get a grant of two-thirds of the cost of building a new school?—I really do not know. I heard some time ago that that money was exhausted.

17520. For the moment only?—Suppose we were turned out and went and asked for the money, and were told the money was exhausted, we would be on the roads until your treasury was filled.

17521. Rev. Dr. EVANS.—Mr. Clarke, you are aware, I suppose, the model schools are managed by the Board of Education through their inspectors?—Yes.

17522. And that other schools have local managers?—Yes.

17523. Now if the Model schools were under local management—suppose there was a committee constituted of you and others in the locality, representing the locality fairly and properly, would not that tend to increase the attendance at the Model Schools?—It would create local interest, and likely tend to bring down the expense.

17524. Because the expense is caused by the small number of pupils—if we could increase those in a way that would be satisfactory to the community that would lessen the expense?—Of course it would, but every one knows that the difficulty about the pupils arises from a special cause. Those model schools were built to accommodate a much larger number of pupils, and in those circumstances the expense runs to greater.

17525. Professor FITZGERALD.—Is not the expense of a model school necessarily greater to the State than that of another school, because the locality contributes nothing to the expense of the model school, because it contributes nothing to the management of the model school?—I don't know what the figures

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involve. It is not a question I studied, but that is an element that would certainly come out.

17524. A school that is managed by the State will always cost more than a school locally managed, and for which the locality contributes part of the expense?—That is so.

17527. Mr. MOLLOY.—Is it not a fact, however, in the model schools that the pupils as a rule pay pretty high fees?—They don't pay very high fees now.

17528. Here in Galway?—I mean under the new Act. There is only a certain contribution to be

made by all the pupils, so that the fees are greatly reduced.

Mr. MOLLOY.—Last week we met with a model school in which the average excess fee, as it is called, was one guinea a pupil.

17529. Professor FITZGERALD.—Does not the Treasury bottle a large part of that?—I don't know anything of the excess fee here. I know that when this Act came into operation the fees of my own two boys were reduced by one-half.

17530. Monsieur MOLLOY.—Then your own two sons are at the Model School?—Only one of them now.

Mr. W. H. WEAVER, B.A., District Inspector of National Schools, examined.

Mr. W. H.
Weaver, B.A.

17531. CHAIRMAN.—You are the District Inspector for the Galway District?—Yes.

17532. How long have you been so?—Four years on the 1st of September.

17533. Perhaps you will give the Commissioners your views on the subject of drawing?—I think drawing is a most useful subject, and—to put it in language I have already used—I think it ought to be forced on the country, that is to say, that in every school where a teacher possesses a certificate already it ought to be taught. There are many schools at present where the teachers possess certificates, and drawing is not taught. Then of course, under the new programme for teachers drawing is practically a compulsory subject.

17534. That is, the future teachers will be compelled?—The future teachers will be compelled to take up that subject, and in that way, of course, by-and-by we shall have all the teachers teaching that branch.

17535. What have you to say with regard to the future teachers of drawing?—I think for the present, as a temporary arrangement, the employment of them at suitable centres would be an advantage.

17536. You think that under existing circumstances they would be useful?—I think so.

17537. But in time they would not be necessary?—They would disappear in time.

17538. Coming to manual instruction, do you consider that that is a subject that should be taken up?—Yes, with restrictions. I think in large centres, where agriculture is at present not taught in the schools, it might be introduced.

17539. You would not teach both agriculture and woodwork in the same school?—I don't see at all that one ought necessarily to exclude the other.

17540. Do you think that there is so much necessity for manual instruction in Ireland as in other countries where it has been introduced?—I do not. I think in a certain way there is a connection between the economic condition of a country and the industries that are carried on in it. They to a certain extent call for manual instruction in countries where they exist rather than in countries where they do not exist.

17541. Is that view not rather dependent upon whether you are going to teach a trade or not?—No; I don't think so. Instruction in manual work in schools to my mind simply increases the general powers of the pupil. It does not necessarily teach him a trade.

17542. How does your argument about there not being a necessity for providing it afterwards come in, if it is not to teach a trade, but to increase the powers of observation?—Well, I only look at it merely from the general advantage it would be to the pupil.

17543. Have any attempts been made to establish any knitting industries and masters of that sort in your district?—Yes, but not in the four years I have had acquaintance with the district. Before my time knitting industries had been established at Kiltavin and Carragee, but these industries finally disappeared about the time I came here, or a little before it.

17544. Was there a grant made to the Carragee

vent?—Yes, there was a special industrial teacher employed there. That grant was withdrawn a short time before I came here.

17545. Why was it withdrawn?—The number of pupils attending was not sufficient to warrant the payment of the grant.

17546. Is there any other place in your district in which there is a grant which is in danger of being withdrawn?—Yes, at Oughterdown Convent there seems some danger of a withdrawal of the grant from want of a sufficient number of externs at that class.

17547. Is that on account of the unwillingness of parents to allow their children to be taught?—No, I think not; it is because the pupils are not there. I don't think there is any occasion to teach in Carragee now.

17548. Do any National teachers in your district hold certificates in handicraft?—Yes, three do.

17549. Do any of them give instruction?—One.

17550. What do you think of the results in his case?—The results are very meagre judged by the number of pupils—three was the maximum presented for the results examination at any time, the result fees are paid only on fifth and sixth classes in these schools where handicraft is taken up.

17551. How many pupils had he in his school?—On the roll at present there would be something about eighty.

17552. How many of these would be in fifth and sixth?—Comparatively few, because the senior classes are very badly represented in my district—as a rule, perhaps not more than eight or nine.

17553. That was probably the reason why so few were presented for examination?—Quite so.

17554. But you think if he had been more fortunate and could have retained his children, and had a fair proportion of the whole school in the higher classes that could go as far manual work, that he would have been able to present a greater number?—I think so.

17555. Do you think that having a well-developed system of manual instruction in the schools would have the effect in Galway, which we were told it has in other places, of keeping children at school to a later age than otherwise?—I think, perhaps, so in the city of Galway it might, I doubt in the country.

17556. Can you tell us anything about any form of manual instruction that has been taught in the Aran Islands, Clifden, Cleggan, and Fishbein?—Yes, net-making was taken up by the Congested Districts Board; it was started at Killybeg, where the Congested Districts Board had put up a temporary house, and some of the pupils with a number of outsiders were taught by a teacher paid by the Congested Districts Board.

17557. Where is that?—Near Killybeg, the capital of the Aran Islands.

17558. Can you mention where that was done on the mainland?—In Clifden and Cleggan.

17559. And Fishbein?—It is an island off the coast, near Cleggan; it is not in my district, it is in the Westport district.

17560. Is it in Mayo or Galway?—In Galway

17561. What is allowed to instructors in this branch?—A moiety of the salary, 12s. 6s. a week, to the instructor, and the whole of the results fees that are earned by ordinary pupils.

17562. Are you satisfied with the results that have been obtained?—Yes, especially so at Cleggan, they were very good.

17563. And you think the children have been eager to learn?—Certainly, at Cleggan.

17564. What do you say about the partial displacement of grammar and geography to make room for manual work?—Well, I have been considering that, I have analysed the time-table here and there throughout my district when opportunity offered. Suppose a school day going from ten to three with half-hour lessons and an hour out for religious instruction and recreation, that would leave four hours or eight half-hours, which would come to forty half-hour lessons in the week. I find in most cases I have analysed that grammar is taught for three of those half-hours and geography for two, or geography for three and grammar two. I think it is a very general rule throughout the country that these subjects are taken up only for that very short time, and any attempt to diminish the time I would not regard with favour.

17565. The only place in which in the South of Ireland we saw any manual work in the shape of woodwork in operation was in Limerick, and we were informed there that the time was gained, two hours in the week, not by displacing any particular subject, but by shortening the whole of the programme, ten minutes off one, and ten minutes off another?—Yes, I think so, but I would still be in favour of retaining grammar and geography.

17566. That is done there; they did not displace anything, but gained ten minutes off a variety of subjects?—Yes, I think that could be done.

17567. You would be in favour of something of that sort and think it practicable?—I think that could be done.

17568. I think that you have some observations to make with regard to the results system; perhaps you would do so without going very fully into the matter?—I think on the whole the results system has not been such a bad system as has been maintained in certain directions. I have been a pupil of a National school myself, after that I went to an intermediate school, and afterwards to college, and graduated in the Royal University, so practically I have seen all the grades of education in the country and I cannot quite agree that the results system is so bad as it is painted. I think improvements might be made in the programme, however—for instance it was only on the 1st of October that explanation of subject matter in reading became compulsory in every class beginning with the second in the school course. I think no more important step has been taken within the last twenty years than requiring a knowledge of the words and phrases which the pupils meet in their ordinary reading lessons.

17569. Would you give us your views on the subject of the acquisition of school plots and school gardens in connection with teaching the principles of horticulture and agriculture?—I think that in certain places those plots would be useful—small plots attached to the schools.

17570. About what size?—Between ten and twenty perches.

17571. You are more in favour of that than of a two-acre plot for teaching a course of farming?—I think so.

17572. Rev. Dr. EVANS.—How many schools are in your district?—123.

17573. Is the alternative scheme for girls in operation in any of those schools?—Yes, it is in operation in perhaps a dozen.

17574. Was it in any other schools than the dorm?

—Yes.
17575. Why was it given up?—There was a general tendency on the part of the parents to look upon it with disfavour.

17576. Then what is the reason for retaining it in the twelve?—I think it is more or less apathy, nobody has raised the question of its retention or abolition, it is just kept on.

17577. Are there any school farms in your district?—None.

17578. Are there any school-gardens at all?—No.

17579. Is there any attempt made to give instruction to the pupils in horticulture in any shape?—I don't think so, but some teachers, since instructions were issued a short time ago with regard to growing shrubs and flowers in the school plots and around the schoolhouse itself, have rather gone in for that, but I don't think it is with a view to give any instruction to the pupils.

17580. But you encourage them?—Certainly.

17581. Do you think that our agricultural class-book contains sufficient information to enable school gardens to be adopted?—I think the new book does.

17582. You have read that book?—I have.

17583. And you know the part devoted to horticulture?—Yes.

17584. Do you think there is anything in the teaching in that book that is above the capacity of National school pupils?—Well, there are a great many names of flowers, and so forth, that would offer some difficulty to them, I fancy.

17585. Anything more difficult than *substratum* and *successes*?—I don't think so.

17586. And as much effort as would be needed to explain those terms in arithmetic would explain the names of flowers?—Yes.

17587. I suppose *substratum* is one of the hardest?—Yes.

17588. And all the rest might be easily taught?—Yes.

17589. There are from forty to forty-five half-hour lessons, you told us, in the course of the school week?—Yes.

17590. And of those forty or forty-five half-hour lessons only two half-hour lessons, or two and a half in the week, are given to English grammar?—That is so in the schools whose time-tables I have analysed.

17591. As an experienced educationalist yourself, do you believe it is possible in two half-hour lessons in the week to teach English grammar to any useful purpose?—I don't think it can be taught to any useful purpose in that short space of time.

17592. That the time is too little?—It is too little; of course they bring the child up to the requirements of our programme.

17593. How much time in the week is given to the teaching of needlework?—An hour a day, five hours a week.

17594. What is your impression about the results that are obtained by two hours in the week given to needlework?—The results on the whole are good.

17595. That the results in needlework are worthy of the time?—I think the same results might be obtained with less time, but speaking generally I think the pupils learn a good deal in the way of sewing.

17596. How much time in the week is given to the study of geography?—If grammar is taught for two half-hours in the week, geography is taken up for three.

17597. If a few of the far-away places and extraordinary unpronounceable names were left out of sight, and something more simple and practical were done in the way of teaching geography, don't you think it would be a very valuable part of National school education?—I don't think the subject, as taught at

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Walsby, Esq.

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present, is very much calculated to develop the intelligence of children.

17598. With practically 140 schools in your district, in how many of them is drawing taught?—I should say from fifteen to twenty.

17599. Why is it not taught in a larger number?—A great many of the teachers had no certificates, and having no certificates, if they teach drawing they can earn no results fees.

17600. Could you suggest, as an experienced educationist, any way by which we could simplify the introduction of drawing into all these schools, or a large proportion?—I have thought of the employment, as a temporary expedient, of itinerant instructors, of drawing in certain centres.

17601. Is writing sufficiently taught in this district?—I don't think so.

17602. You think if a use were made of drawing models and copies, analogous to the use made of writing copies, that drawing might be taught, not in the highest form, but usefully, in many of the schools in which it is not now taught at all?—I think so.

17603. That a teacher who can teach writing with the aid of copy lines, who is not a good writer himself, if he obtains fairly good results with a simpler mode of dealing with drawing (where you cannot have a properly qualified teacher of drawing), would be better than to have no drawing?—I quite agree with that.

17604. Rev. Dr. WILSON.—You say you are favourable to the introduction of manual instruction, subject to certain restrictions, would you specify some of those restrictions?—I merely mean to say that I don't think it ought to be introduced into the country generally.

17605. PROFESSOR FITZGERALD.—Compulsorily?—Compulsorily, just as the industrial programme was sought to be introduced some years ago.

17606. CHAIRMAN.—Are you in favour of its being introduced compulsorily at all?—I would be in favour of its being introduced compulsorily at large centres.

17607. PROFESSOR FITZGERALD.—You think there is time, then, for it in the present school programme?—Yes, at present, as I say, at large centres, with that qualification; you see agriculture is not taught, and that subject might be taken in the time devoted to agriculture.

17608. What is at present done in the time devoted to agriculture?—It is simply spread over the other subjects where extra subjects are not taken up.

17609. What hour is roll-call?—The attendance for the day is supposed to be recorded not later than eleven o'clock.

17610. That is that the children need not be there before eleven?—No, a few minutes before eleven.

17611. What is the school day?—From ten to three, or half-past three, five, or five and a half hours, the teacher is required to be present half an hour before the ordinary work of the day begins.

17612. CHAIRMAN.—To do what?—To prepare for the reception of the pupils.

17613. PROFESSOR FITZGERALD.—Is more than five hours at present required by the Board?—The minimum school day required by the Board is four.

17614. As a matter of fact, it is generally over that in the schools in this district?—Yes.

17615. Then there is an hour wasted in the beginning of the day, while the children are coming in?—I don't say that at all, in many cases they come punctually.

17616. Do you think the teachers in this district would be willing to introduce new subjects like drawing and manual training, and so on?—I don't think they would have any objection to drawing; I think there would be some objection to manual training generally.

17617. Do you think they would object to having the agricultural teaching changed from the present form of learning a book to something more practical, in the way of making collections and elementary

botany, and showing plants growing from seeds?—I cannot answer that question, because I have not consulted any teachers on that point at all.

17618. Do you think the managers and parents would be willing to make these changes?—I don't think there would be any very general objection to it from these.

17619. You said there were very meagre results from the school in which manual training had been tried; was that due to want of appliances?—No, the appliances are excellent.

17620. Was it due to the course not being educational?—Perhaps I better say, with reference to the appliances, if you allow me, that all the tools were supplied by the Congested Districts Board, and the work is not carried on in the ordinary schoolroom, but in a smaller house built in the school plot, and I understand the Congested Districts Board allow £25 a year for materials.

17621. But the course in manual training in the Board's course is not an educational course, it is not graded in a bit like the courses that have been adopted in English schools for manual training?—That portion begins with the fifth class.

17622. And there is no introduction to it in the earlier classes?—No.

17623. Would not the meagre results be largely due to the course not being a well arranged course?—I think I have practically said so.

17624. Do you think the people of Ireland are particularly accurate in measurements and observation?—I don't think they are.

17625. Don't you think a training in object lessons and elementary science, and drawing to scale, would be an advantage to them?—I think that would be good if well arranged and well carried out.

17626. Then you think this practical training might be of use, even in a country like Ireland?—Oh, certainly.

17627. Because I thought you stated it would not be suitable for Ireland?—No, that was not my point of view; to use a famous expression, I have an open mind on the subject as to its application to the country generally, but at present all I would say is that it ought to be tried in large centres, and if it succeeds there it might spread to the whole country.

17628. Mr. STRANDBERG.—Were those pupils who were taught not-reading, extra pupils, or pupils of the school?—Some extra and some pupils of the school.

17629. Which was the more numerous class?—At Cloggan I think they were about equal; in the Aran Islands the externs were more numerous than the ordinary pupils.

17630. Those time-tables you spoke of, are they typical time-tables of your district?—I think so, I have consulted a good many, and found it generally so.

17631. And you found, as a rule, two half hours a week were given to grammar?—Two or three.

17632. And you are quite of opinion that it is impossible to impart in that time any satisfactory knowledge of grammar?—An intelligent knowledge cannot be imparted in that time.

17633. Do you know what time is given to reading in those schools?—The time varies a great deal; personally I am in favour of giving as much as possible to reading, but I think from three to four hours a week would, in some cases, be given to reading—three hours, I should think.

17634. Then you don't think it is a pity to have grammar entirely separated from reading, and considered as a separate subject?—Of course, in the time table it is treated as a separate subject, but it perhaps very often happens that it is taken up after reading.

17635. You find in actual practice that it is taught along with reading to a certain extent?—To a certain extent.

17636. But you examine it as a separate subject?—Yes.

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17637. And it is put down officially as a separate subject, entirely disconnected from reading?—Yes.

17638. Don't you think it would be well to have both brought in connection?—I think so; because, in order to understand the meaning of sentences, the meaning must be understood, and that comes in under the head of reading in our present programme.

17639. So if you taught grammar along with reading, you might have a more intelligent knowledge of it than you can get by only setting apart an hour a week for it?—I think so.

17640. Do you find the teachers and pupils use grammar books throughout your district?—I think almost universally; I don't think they are used in the third class, but in the fourth class they are universally used. Fourth class pupils require to know the declension of the nouns and pronouns, and the past tense of irregular verbs, &c.

17641. And they prescribe sections to be learned off by heart?—No, I don't think so.

17642. Do you ask, if I may put this question, do you in examining them ask for any definition of parts of speech to be repeated from the books?—Oh, certainly.

17643. Is that part of the necessary examination?—No, it is not so laid down in the programme, but I suppose if a child tells me a certain word is a noun, it ought to be able to give me the reason why it is so.

17644. But you don't ask them to repeat the text of the technical definition of what the noun is?—Sometimes I do, sometimes I take it another way—ask him his reason for stating a word is a certain part of speech.

17645. If he stated his reason in the words of the definition in the book that would not be a satisfactory answer?—It would not be an intelligent reason.

17646. Do you think there is an excessive repetition in the school learning things by heart?—They learn a good many things by rote.

17647. It would tend to discourage that if the grammar were taken in connection with the reading lesson, and no text book used at all?—Yes, I think so.

17648. Analysis does not seem to be set down in the programme for the schools?—No, analysis is not required except for monitors.

17649. You consider that really a proper introduction to parsing?—I think it would be a great advantage in sixth class, the higher forms.

17650. You would not have it introduced in the very beginning as necessary to understand the real structure of a sentence?—With the limited time given to grammar I do not see how it could be taken up.

17651. You think it would be a good thing to take the reading, grammar, and explanation of sentences in the reading-book all together as one conjoint subject?—I think that would be a good thing.

17652. So that one might help the other?—Particularly for explanation of particular sentences in parsing.

17653. And in that way you would probably find that the grammar teaching was done in the time now set apart for reading?—That might occur.

17654. So that there might be some time got in that way for drawing or manual work?—That time, two or three half-hours in the week must be devoted to grammar in some form.

17655. I thought you agreed it would be well not to separate the subjects, but that reading and grammar should be taken conjointly?—No deduction should be made from reading.

17656. And you still would have grammar set down as a separate subject apart from the reading, you would still retain the two half-hours for grammar?—That might be incorporated with the other time.

17657. You don't think that adding the present time for grammar to the present time for reading, you don't think that the joint time could be diminished?—No.

17658. Then five hours a week are regularly given to needlework in the schools?—Yes.

17659. And I think you said already that some of that time might be saved?—I think an hour at least of that might go to some other purpose without any serious disadvantage.

17660. You know that in England, for instance, more than three hours a week is very seldom given to needlework, and the needlework appears to be very well taught?—Yes.

17661. Which do you think is more valuable for developing intelligence—needlework or grammar?—Needlework, I should think.

17662. Do you think it is taught so as to train the intelligence?—Not in every school, it is taught in some schools so as to develop intelligence considerably.

17663. Is drawing taught to girls in your district?—Yes, certainly, where female teachers have the Board's certificates in drawing the subject is taught to their pupils.

17664. So that they take some time for drawing in addition to the time for needlework?—Yes.

17665. There would be no hardship in making drawing compulsory in the girls' schools if we had properly-qualified teachers?—None, whatever; in one of my very best schools drawing is taken up and taught very well.

17666. Might not the drawing in the girls' schools be made helpful towards teaching cutting out?—Yes, I dare say in some of the better schools it is.

17667. Might it not be made systematically helpful to cutting out?—Certainly.

17668. Do you think any teacher uses the term *substitution* and *misread* in teaching his children?—I think very seldom.

17669. He can teach *substitution* very well without using those words?—I think so.

17670. Mr. HARRINGTON.—I suppose agriculture is taught in all the rural schools in your district?—Yes, it is a compulsory subject.

17671. Would you tell us shortly how it is taught?—The teaching of it is in some cases very unsatisfactory; it is taught as a form of reading lesson. The pupils get the text-book and read off the particular part assigned for the day's lesson, just as they read over a lesson in their readers, and sometimes questions are put to them on what they read.

17672. Do they not learn it off by heart?—In some cases they do, and in some cases outcrops of agriculture are used.

17673. As a general rule do you think the children understand at all what they are reading in this agricultural text-book?—I certainly do, because they are reading about things they are at home very often.

17674. Does the teacher explain the various expressions used in the book?—I dare say he does, I think he does in many instances, but they are reading descriptions of things they are acquainted with to a certain extent.

17675. Would you approve of shortening the text-book, epitomising it?—No, I don't think so. I don't think there is too much matter in the text-book at present.

17676. Have you anything to say about habits of cleanliness in National schools?—Nothing specially, the teachers are required to have the schoolrooms swept and dusted each evening after the ordinary business of the day, and that, as a rule, I think is carried out.

17677. I refer to the children themselves, about coming to school in a clean condition?—Some improvement certainly is desirable in parts in reference to that.

17678. How does that come under your notice—the teacher knows, does not, that you are about to visit the school?—No, he does not; he knows when I will come for the annual examination, but he is not supposed to know when I come besides.

17679. Mr. SHUTHEART.—Are you able to make

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many visits besides the annual visit?—Yes, a great many in this district; but there are other districts in which many visits cannot be made, owing to the amount of work at the annual examinations.

17680. Mr. MULLOCH.—In those schools where not-mending is carried on, what length of time is devoted to the subject?—It was generally taken up outside school hours—from 3 to 4 o'clock.

17681. And by a specialist?—Yes.

17682. That specialist was paid by the Congested Districts Board?—Half his salary was paid by the Congested Districts Board.

17683. And the remaining half by the National Board?—Yes.

17684. What effect had it on the children, did it interfere with their literary progress in the ordinary subjects?—Not in the least.

17685. Were they in favour of it?—Oh, decidedly.

17686. And their parents also?—Yes, their parents were most anxious; I have Cloggan particularly in my mind, which was the last place at which that was taken up—the fishing industry has been greatly developed there, and the people were most anxious to have their children taught.

17687. How many pupils under instruction?—I cannot say exactly now, but there were quite thirty or forty under instruction.

17688. What are the usual extra branches taken up in your district?—We have geometry, algebra, drawing; book-keeping is rarely taken up in this district.

17689. Measurement?—Measurement, of course, forms part of the programme in geometry.

17690. How do you account for the small number of schools taking up such an important subject as drawing?—Merely because not many teachers have certificates in that branch.

17691. I think you said some teachers who had certificates did not take up that subject?—Yes, only the other day I met with a case, and inquired if there was any reason why this teacher did not take up the subject, and there did not appear to be any good reason; I tried to impress on him the necessity of taking it up.

17692. Would you not bring that under the notice of the manager?—Oh, yes, and under the notice of the Department as well.

17693. You mentioned that explanation of the subject-matter of the reading lesson became compulsory from the 1st of October?—From last Friday.

17694. But is it not a fact that explanation of the subject of the lesson was at all times an essential part of the programme and of examination by the inspector?—If you will allow me to explain—explanation of the reading was always an essential part, but the marking did not depend on it—it was what was called a subhead in the programme; now, according to the new programme, this subhead forms an integral part of the marking.

17695. Prior to the 1st of October is it to be understood that if the children, merely in a mechanical way, pronounced the words and were quite unable to explain them, still it counted a result for?—Certainly.

17696. Are you quite sure about that?—Perfectly certain, except in fifth and sixth, in which the rule was introduced about a year ago.

17697. Would you not think it your duty to call attention to the fact that there was an absolute failure of any show of intelligence as to the meaning in the

other classes below the fifth and sixth?—I have done it in scores of cases.

17698. Is it to be supposed that no action was taken in those cases?—Oh, yes, action was taken always; the fees were paid, but the teacher was repeatedly mandated for not teaching explanation.

17699. If he were fined would it not amount to a reduction in the results test?—He was not often fined, the official censure did not go beyond a reprimand.

17700. Mr. REMINGTON.—You gave us some returns as to the time spent in teaching grammar and geography in a certain number of schools—could you tell us how much time per week is spent in teaching the other subjects on the programme?—I cannot tell you immediately; all the other subjects had the remainder of the time, but I cannot distinguish between one subject and another.

17701. Could you put in a return with regard to those schools—the time given to reading, writing, and arithmetic?—Certainly; in a few days.

17702. You say very few teachers teach drawing and a large number are not competent to teach it—how would you propose to improve their knowledge of drawing?—I have already said that, as a temporary measure, I should think that at centesimiliter teachers might be employed to give instruction in that branch.

17703. Professor FITZGERALD.—To the teachers or the pupils?—To the teachers.

17704. Mr. REMINGTON.—Would the teachers come?—I think they would in many cases.

17705. And you think that after a few years we could make drawing compulsory in all the schools?—I think so.

17706. Do you think that an inspector's knowledge of needlework is equal to that of a lady?—I don't think my knowledge of needlework is equal to that of a lady; but, at the same time, I think I am a fairly competent judge of needlework.

17707. Do you think that it would be advisable to have lady instructors, who would go about advising as to the best mode of teaching needlework, instead of leaving the matter entirely in the hands of the ordinary inspectors?—I think that would be useful. I should welcome it in this way—anything that would diminish the inspectors' labours at examinations.

17708. But do you think it would be an advantage to the teacher to get the assistance of a skilled expert in needlework?—I think so.

17709. Professor FITZGERALD.—Do you think children at twelve or fourteen years of age can be expected to do needlework better than you can inspect it; do you think it would be lax on the children to expect them to do work of that character, which would be of such technical excellence that you would not be competent to inspect?—No, I don't think so. I think any work done in schools the ordinary inspector is quite competent to judge.

17710. Mr. REMINGTON.—You are aware that there is a distress of needlework?—Yes; but I understood she confined herself to specimens worked by teachers at the July examinations.

17711. Then it is found necessary in examining the teachers' work to have a lady inspector; but for the pupils the male inspector is sufficient?—I fancy so.

Mr. JOSEPH D. KELLY, Teacher, Cashed National School, County Galway, examined.

Mr. Joseph D.
Kelly

17712. CHAIRMAN.—You are the teacher of the Male National School at Cashed. Where is Cashed?—About five miles from Ballinacree Castle, and about seven miles from Roundstone; and about seven miles also from Cashed.

17713. How far from Galway?—About thirty-two miles from Galway.

17714. I believe that you have had some experience yourself in teaching manual work?—Yes, sir.

17715. What has been your experience—what

how you taught?—I have been instructed to teach carpentry by the Congested Districts Board. Carpentry is my order; I sought the certificate of competency on the first introduction of handicraft, and I got it in Marlborough-street.

17716. How did you get your benches?—I taught in the school with temporary benches, for a few years, such pupils as I could have, for *novicia*. I found that very inconvenient and troublesome, great difficulty attending it; so I applied to the Congested Districts Board, when I had an opportunity of interviewing the late Mr. Tuohy, for a grant, enabling me to carry it on better. Through Mr. Tuohy's influence with the Board I got a grant of £15 to build a workshop.

17717. Did you build one with that sum?—I built one with that sum, 11ft. long and 1½ ft. wide.

17718. How high was it?—8ft. to the eave, and 12½ to the ridge.

17719. How was it lighted?—By five windows. Of course I did the whole work myself, with the assistance of the boys.

17720. What material was it made of?—Wood and corrugated iron.

17721. What was the floor made of?—Concrete.

17722. Were you able to do it with the £15, in addition to the labour that you yourself and your boys gave to it?—I spent a little more, and then I got an additional grant. When Mr. Tuohy came the way again he was very well pleased.

17723. How much was the additional grant?—£5, and then I had a visit from Mr. Ballour and the Hon. Horace Plunkett, and I was recommended to apply for an additional grant, and I did, and I got £10, and built an addition; the workshop is 26ft. by 13ft.

17724. How many benches have you got now?—Five.

17725. What did they cost a-piece?—Something about 5s. to 7s. each.

17726. You made them yourself?—We made all ourselves.

17727. What did the material cost?—About 3s.

17728. Rev. Dr. EVANS.—Are they double or single benches?—Single benches, I approve of single benches.

17729. CHAIRMAN.—You put nothing for labour?—No.

17730. But suppose you could not make them yourself, and you had to buy them, have you any idea what a bench would cost?—Something about £1 5s. and that bench would be inferior to mine, for it would be swivel.

17731. Is another school, where the teacher had not your aptitude, he could not expect to get his benches under £1 5s.?—He could have them for about 7s. or 8s., for the making of the bench is not work, and a carpenter would construct five or six a day.

17732. Coming to the question of tools, how did you procure your tools?—I had a fair supply of tools of my own at the beginning, and then I got a grant of 25 for tools.

17733. What tools have you—what number could you say?—I suppose I have about £10 or £12 worth of tools altogether; it cost about 14s. to supply each bench with bench-tools.

17734. What tools do you supply at that?—Three planes, a chisel or two, a square, and ruler. These are required for each bench, and then a lesser number can be had by it in pieces for special use.

17735. The figures you have given us are very much smaller than those we have heard of elsewhere, even in Sweden. Do you think that in a district where the teacher had no aptitude like you have, he would be able to get a school started and buildings erected, and a supply of benches and tools for anything like the figure you have mentioned?—I think he would, very near it. I supplied these figures to Dr. Joyce for a little book he has written of late, and

he has adopted my figures. He held about the same view on that matter.

17736. How far do you think that in rural districts manual instruction may with advantage be made a permanent part of the curriculum in the National system?—I would be in favour of introducing a sort resembling the Swedish *Sloyd* system as far as possible, on account of something so much the useful with the educational.

17737. Would you also follow the Swedish system in making it optional with the teacher to teach it?—Well, I think it might be made compulsory after a time when teachers can be got to know it.

17738. Would you encroach upon the school hours to find time for manual teaching, or would you favour the system of having an extra hour or two in the week after school hours?—After school hours would be the best, the school hours could not be well, if at all interfered with, and they don't admit of lengthening.

17739. Do you believe that you could get the pupils to remain or come after the ordinary school hours in the upper classes?—Yes, I have an evening class and it is fairly well attended, especially in winter time, with exceptions.

17740. Do you think that it would be advisable to introduce the system that prevails in England, of preparing for the training in fifth and sixth classes, by having such things as earboard work and winework in classes lower down, the third and fourth?—I think the earboard and winework would not meet the wishes of either teachers or parents, they don't see the benefit of it.

17741. They don't see it now, but other people have seen it elsewhere, do you think it would have any educational advantage in teaching the children habits of accuracy, and how to measure and train the eye, which would help them when they come to woodwork afterwards?—I would be entirely in favour of that, of going on with the Swedish system, which does not admit of anything but wood *Sloyd*.

17742. How could room be made for manual training, without diminishing the time for useful portions of literary knowledge as at present imparted?—There is a good deal in grammar, as at present taught, that is not practically useful, and that could be curtailed without detracting from the utility, the foundation is laid at present on a very large scale, and when not followed by advanced education a great deal of that becomes useless.

17743. What are the difficulties in the way of having manual instruction generally taught?—Difficulties come in the way of the room. I would not favour seeking manual instruction in the schools, for the school hours hardly admit of it and the time is too short, the place has to be broken up, but the workshop does not require that, and then there is the difficulty of suitable teachers. I would disapprove of taking in tradesmen, if we could avoid it, they don't teach as teachers.

17744. You have been through the Marlborough-street course, do you think that the course is adequate to enable anyone that goes through it to teach woodwork properly afterwards?—I have not been through the course in manual instruction.

17745. I thought you said you had?—No, but I went for an examination in Marlborough-street.

17746. Were you trained for an artisan originally?—Oh, no, but I got practical lessons in carpentry in Mount Telbot, Roscommon, from a carpenter and clock of works.

17747. Coming to the subject of agriculture, do you consider that it is properly taught now, or that there is any room for improvement in the teaching of it?—It is not properly taught, because it is taught in a manner not locally applicable to rural districts. There is a great deal of stereotyped rotations given in Professor Baldwin's book, on which the inspectors minutely examine, and this is all matter to be forgotten and not put into practice, or applicable to the country.

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Then a teacher cannot teach it practically or he will suffer his results too, he must go with the examination.

17748. Are you in favour of the employment of itinerant instructors in the case of manual training?—I am, I don't see how else it could be worked: with these itinerant teachers, and the school teachers fairly qualified, and a staff of men to inspect and conduct, they would be better competent.

17749. Is it your view that these itinerant teachers should train the present National teachers, or that they should actually go into the schools or buildings attached to the schools and teach the children themselves?—Well, to some extent they could instruct both teachers and children, the teachers should get a fair share of instruction first, and then, with the encouragement that they would derive from men who actually knew the subject and a desire to learn, they would very soon improve.

17750. Rev. Dr. KRANE.—How long are you teaching?—Very nearly thirty years.

17751. Were you trained?—I was trained in 1872 in Marlborough-street.

17752. How many pupils are on the rolls of your schools?—Sixty-five boys.

17753. You got a certificate, did you, for manual instruction?—Yes, on examination; I specially applied.

17754. CHAIRMAN.—Will they give certificates in Marlborough-street without going through the course?—Oh, yes.

17755. How was the examination conducted?—There was a written examination conducted on paper, and then we were taken to the workshop; it was conducted by Mr. Robinson, of the Board of Works, and Dr. Joyce and Mr. Rawlin, carpenter to the Board of Works. A reference was made to me at the time in the report of the Commissioners for 1872 as coming from a remote district in Connemara.

17756. Then you have no assistant in the school?—No.

17757. You have probably some aid in the shape of monitors?—No aid at all.

17758. And the whole work of the school is done by yourself?—The whole work is done by myself, and there are sixty-three on the roll, but the average is something less than forty at present.

17759. Rev. Dr. EVANS.—To what extent is grammar taught in your school?—The requirements of the programme for fifth and sixth class, as the case may be, and in the fourth class a good deal of what might be omitted in grammar, I think, comes in, for my notion of the grammar taught to children, who cannot follow the grammar up, would be to enable them to write correctly grammatical language.

17760. Do you know anything of what becomes of your pupils afterwards?—They mostly emigrate—a boy left me last year that got manual instruction in the workshop for two years in the evenings. He asked me could I supply him with some kind of a certificate. I did, he got also a testimonial from the parish priest. He fell into carpentry at once in America, and is doing remarkably well. Two or three others of my pupils worked as carpenters on the railway, and they are now practical carpenters.

17761. Yours is a mixed school?—No, sir.

17762. You have no little girls?—My wife teaches the female school.

17763. Do you think is there any portion of arithmetic that might be omitted?—The advanced arithmetic should be omitted, I think, to make room for mensuration.

17764. Are you of opinion that a great deal of what is required in arithmetic is more in the way of arithmetical conundrums and puzzles than teaching the science of arithmetic?—In the advanced classes it is largely in that way.

17765. Rev. Dr. WILSON.—May I ask what is your active county?—Galway.

17766. Is your school situated in a congested district?—Yes.

17767. Do you teach the ordinary literary subjects from 10 to 3?—Yes, sir.

17768. At what hour do you teach manual instruction?—From 10 minutes past 3 to 10 minutes past 4 on three days of the week to the school class, and from 6 to 8 on the other three days of the week to an extra class.

17769. Do you get any extra pay for that?—I get extra pay from the Congested Districts Board. I believe a portion of that extra pay is refunded to the Congested Districts Board by the Commissioners.

17770. Do the pupils show readiness to come at these hours?—They show a good deal of readiness to come under a good many difficulties of bad weather, a wild district, and long distances.

17771. What would be the furthest distance?—None come over two miles, but there are instances in which they would require, if they came, to come three miles and that would be rather hard on them going home at night after 8 o'clock.

17772. What is the average number that attend this manual instruction?—Generally about twelve to fourteen; the average number for evening class would be about eight.

17773. Do you limit yourself to woodwork?—Entirely to woodwork—carpentry.

17774. PROFESSOR FITZGERALD.—What programme were you teaching?—I am divided between programmes. The Congested Districts Board ordered carpentry, but never mentioned a programme. I got the pupils prepared on the handicraft programme for results examinations, but I entirely disapprove of the programme, and always did.

17775. You think it ought to be more educational?—It ought to be more educational, and those portions should be omitted of which the teachers take advantage to expose it to ridicule.

17776. At what class might the children begin?—About fourth class.

17777. What age are they in the fourth class in your school?—They are about twelve years, and that is about the age at which they could be expected to begin.

17778. Do you teach agriculture in your schools?—Yes, sir.

17779. Do you think agricultural teaching is any use?—It is not a great deal of use. It is not a great benefit in Connemara; it is no benefit in fact, for the text-book is entirely at variance with the habits and customs of the country, but the Congested Districts Board have certainly done a great deal of useful work in the way of showing example plots.

17780. Then you think the agricultural teaching ought to be varied to the different districts of the country instead of having one programme for the whole of Ireland?—It ought to be to a certain extent suited to the districts of the country, but I believe Mr. Carroll's present book is a great improvement on the old one.

17781. Would the teachers as a general rule be favourable to introducing some more practical training into their schools—drawing and so on?—They are favourable as a body to the introduction of drawing and agriculture, but I think as a body they are not favourable to anything in the way of woodwork or manual training, because it would be an innovation on their present system.

17782. Mr. SEYMOUR.—If you teach woodwork to the older boys of your school I suppose you could not possibly find time to teach the various things mentioned, cardboard work and so on, as an introduction to it?—It would be very difficult to find time.

17783. You are the sole teacher of the school with sixty-five boys who attend, apparently, very irregularly?—Sixty-five who attend most irregularly.

17784. You think it better in your school to concentrate the manual instruction on the older boys and do it thoroughly, rather than spend it over the whole school, and do it imperfectly?—I think it better to do it thoroughly, and I think the younger children want all they can get in the way of literary training.

17785. Would it be some advantage to you to have

the younger children—the first class children, the infants—discharged rather earlier than the others?—I think it would be a great advantage, at about half-past two they ought to be let off because they become weary.

17786. When you are teaching the higher classes in grammar, or arithmetic, or agriculture, what are the younger children doing—children of about six or seven?—They are at reading exercises, writing, and spelling, and a little arithmetic calculation, in charge of unpaid monitors—more advanced school boys.

17787. That is you take some scholars from your highest class to assist you?—To keep them going, but it is not teaching.

17788. And it would be no loss to these children, but a great assistance to you if they were sent home rather earlier?—It would be an advantage to the advanced classes to have these children cleared out at about half past two—the day is long enough.

17789. Or even earlier, perhaps a half-day's attendance?—Half past two I think about fair.

17790. Captain SMYTH.—Your school is in a rather scattered district?—Very scattered.

17791. How far did the scholars come who attended your evening classes?—Some of them came about two miles, very few came further.

17792. Would you give us a little information as to these benches of yours, what is the size of the top of the bench?—Twenty-one inches wide, and one of them is the whole length, thirteen feet, of the room across, and the five others are six feet or seven feet.

17793. What is the thickness of the bench-top?—The front of the bench-top is three inch deal, and there is what we call a bench-well, the inner part of the bench is something lower, they are at varying heights to suit the size of the boys, some are fitted with a bench-screw, others with a simple slide.

17794. Are they movable?—Oh, no, they are permanent, fixed to the side of the walls—they are along the wall.

17795. You mentioned, I think, that you supplied three planes to each bench?—I think I made a mistake in that, I don't supply three, but two; I have three planes supplied to two benches. I dispense with the trying-plane, it is too big on them. I have the jack-plane, and the smoothing-plane.

17796. Would not our plane do for ordinary manual instruction, a cross between the jack and the smoothing plane?—One plane will not do, because the edge of the plane will get done up.

17797. You get pretty tough timber to work up?—Well, the ordinary deal got from Galway.

17798. Mr. MOLLAT.—How many classes in your school?—Five at present; no higher than fifth.

17799. That includes the second stage of fifth, so there are virtually six classes in your school?—I had a sixth class last year.

17800. The senior division consisting of fourth, 5th, and 6th; how many pupils in the senior division?—I include third in the senior, and that would include something about half the school.

17801. Do the pupils of the third class take part in the instruction in carpentry?—Some of them do, those who are advanced.

17802. What age are they?—Something about twelve, some might be eleven.

17803. In third class?—Those that I take into the manual instruction are from eleven to twelve.

17804. What might be the age of your senior classes?—None at present are fifteen, generally between fourteen and fifteen they drop away from school.

17805. Is third, fourth, first stage of fifth, and second stage of fifth, what is the total number on the roll?—I think it is no more than twelve at present.

17806. And of the twelve on the rolls how many actually receive instruction in carpentry?—Ten pupils I have on the roll for the day class of manual instruction, and ten for the evening class.

17807. Do they get any instruction in the use of tools, or any description of them, and how to clean and sharpen them?—Oh, yes.

17808. Do they take any part in sharpening the tools themselves?—Oh, yes, they must sharpen them.

17809. CHAIRMAN.—Do you lecture to them on the subject of the different kinds of wood?—Well, I don't go largely into the different kinds of wood, for our chief wood is deal. I have three sorts—yellow pine, red, and white.

17810. Mr. MOLLAT.—I think you mentioned you had an evening school?—Yes, that is the evening class I refer to.

17811. At what hour does the instruction in carpentry begin?—Six to eight for externs.

17812. And how many evenings in the week?—Three—Tuesday, Thursday, and Saturday.

17813. CHAIRMAN.—How many hours does it last?—Two hours.

17814. Mr. MOLLAT.—In the ordinary day school have you any science teaching?—No, sir.

17815. Any instruction in drawing?—No.

17816. The boys who learn carpentry, are they not taught drawing?—I get them usually to do little sketches, and show them the connection between the sketch and the model they are to make.

17817. I forget whether you stated you had a certificate for drawing?—I have not a certificate, except as drawing is included in the handicraft certificate, for which there is some drawing required.

17818. You would desire, in the case of infants, that they might be discharged at an earlier hour, and you mentioned half past two; perhaps you are not aware that that is the regulation of the National Board that infants may be dismissed prior to the termination of the ordinary school hour?—I am not aware of that.

17819. MESSRS. MOLLAT.—Do the pupils who come to your evening classes pay fees?—No, sir, it is quite free.

Galway.

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Mr. Joseph D. Kelly.

Mr. P. J. HANNON, Organiser, Irish Agricultural Organisation Society, examined.

17820. CHAIRMAN.—Where do you live?—I live in Loughrea, and at the present time I am engaged for the Irish Agricultural Organisation Society of Dublin, Mr. Horace Plunkett's Society, as an organiser in this district, the West of Ireland. But I have taken a great deal of interest in the teaching of agriculture in National schools for a number of years, and in fact in agriculture generally.

17821. Will you point out to us what you think are its defects?—I think, my lord, in the first instance, that teachers themselves don't take sufficient interest in teaching the subject. I know, from personal experience in a great many schools, that teachers teach it in a half-hearted way, don't take any particular interest in the teaching of the subject; they try to get through it in a mechanical way as part of the day's work.

17822. In order to earn fees?—I should think so or to comply with the late order of the Board, making the subject compulsory in rural schools.

17823. Do you think that teachers are sufficiently trained before they begin to teach?—I don't think so at all, I think some scheme should be adopted to give teachers some training in practical agriculture, if possible, and then afford them means in their school at home to put it into operation—until that is done I don't think the prosperity of the country can advance to any appreciable extent.

17824. At present you are of opinion that the teaching consists principally of asking questions out of a text-book or out of calculations?—That is my experience.

17825. Who are the authors of the estimates, are they approved of by the National Board?—

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Certainly not; they are generally National school teachers who prepare these catechisms for the purpose of covering the questions the inspector usually asks. Teachers, as men of the world, try to follow the course the inspectors follow, and they will cover to a certain extent for the examination of the inspector.

17829. What do you say about the system or want of system in teaching the subject?—In the first place it is a mere text-book subject in National schools, and after all if the teaching of agriculture is not made in some way more applied, that is, if it is not brought into connection with the agricultural methods and working of the district I don't see what use it can be at all, because I take it that the teaching of agriculture in National schools means that the children are to apply the methods they have been taught at home.

17837. You would have sandal-plots?—Oh, certainly.

17838. Would you advocate having them in connection with every National school?—Yes, certainly, in the country places.

17839. Do you think that the method which is followed by the Congested Districts Board in some cases, of obtaining plots by arrangement with the farmers, would be a better one than attempting to buy them and attaching them to the school residences?—I think that would be a capital idea, but, of course, the work of the Congested Districts Board is necessarily confined to a limited area, if this could be adopted generally in the country it would be an excellent plan.

17839. You are, no doubt, acquainted with the feeling in the country. Do you think that it would be easier to obtain a small piece of land by agreement with a farmer, than to go through the double process of buying an allotment under the new Allotment Act, first from the landlord and then from the tenant?—The former course would be easier and more profitable in the end.

17831. And it would also have the advantage that in case, for any reason, the teaching of agriculture was not to be carried out in any particular place, the ground could be given up?—Quite so.

17832. Do you think that in cases where teachers are farmers they are just as bad farmers as their neighbours?—I think they are worse. I know teachers who are really bad farmers and not at all competent to the district, as I take it they should be.

17833. Do you find that pupils take much interest in agriculture?—Very little, my experience is that they don't take much at all.

17834. They see too much of it at home?—Not exactly that, but the style of teaching in school is by no means attractive, and as a pupil of a National school myself when a boy I remember looking forward to the agriculture lesson as something to be avoided, if possible—it was looked on as dry.

17835. And was that because it was not applied practically?—Not applied at all.

17836. You think that no practical instruction is given?—None at all, I don't know anywhere where it is.

17837. Do you think that teaching is not accompanied by any elementary training in natural and physical science, and is always conducted without the help of illustration or experiment?—That is always so, and I think necessarily so, because under the existing programme there is no means of bringing the teaching of science in.

17838. You think that there is a want of any general scheme for giving children a taste for pursuits in the field?—That is a very serious consideration. I think, in the teaching of a subject like agriculture that the taste of the child should be developed if possible; if a child has not a taste for a subject it is waste of time to try and teach it.

17839. There is no practical training, or in fact any training in ordinary land surveying, farm produce, measuring of quantities, calculating the weight and treatment of cattle in disease?—Not at

all; ordinary farmers ought to be able to do these things for themselves without calling in the aid of outsiders.

17840. Do you think that it would be a good thing that examinations should be made from schools acquaintance to well-kept farms and gentlemen's gardens, in order to give instruction?—That would be a good thing.

17841. Do you consider that could be practically carried out?—In some districts we have not those things, but wherever we have them I should say it should be carried out.

17842. Do you think that that is instruction in agriculture? I don't quite know what you mean in your Memorandum when you say that the time is "crissled" between ordinary school hours?—I mean the teaching of agriculture is taught within the ordinary school time, and to my mind it would be much better if it could be taught outside the school hours.

17843. But it is not illegitimately taught, it is quite legitimate to teach it then?—Oh, yes.

17844. Under existing circumstances you think it is taught as a matter of memory?—Chiefly as a matter of memory.

17845. And in reference to no observations that may go on around the schools?—I have been in a great many National schools, and I frequently asked boys who had been taught agriculture, questions in agriculture. I always ask them one question, and that is, if they ever attempt at home to apply the knowledge they receive in school and I did not find a single case where the boy could show he did so.

17846. What improvements could you suggest, taking them separately, in the case of the teachers, the pupils, and the teaching?—In the case of the teacher I think he should receive the training referred to a few moments ago; that is, he should get a longer period of teaching in practical agriculture. Then, with regard to the pupils, there should be practical instruction above all, and that means ought to be taken to make the subject more attractive to the children, and the teacher ought to take a keener interest in the work.

17847. And as regards the teaching itself?—I think a little more time in rural schools might be given than at present, some time outside school hours, and it should be accompanied as much as possible by illustrations and experiments in elementary science.

17848. Would you be in favour of horticultural and flower shows?—Yes, very much so, because I think if these things were got up in a district it would encourage people. My idea is that if the parents don't take an interest in the teaching of the children you cannot have them taught at all.

17849. Have you any flower shows in your part of the country?—We had one at Athenry, and it was an excellent one.

17850. You are of opinion that the taste is being developed for gardening?—Yes, I see they propose teaching gardening at the Current in Galz, and it must have a good effect on the neighbourhood.

17851. Do you think that schools could be made experimental stations for teaching agriculture?—I took that suggestion from Mr. Conroll, I think it is an excellent thing. I don't say every school should be made an experimental station, but a school should be taken from a particular district, or two schools, perhaps.

17852. Is enough time given to the teaching of agriculture in schools?—I don't think there is.

17853. How much would you suggest?—Under existing circumstances it would be very hard to make a suggestion of all, but at least three-quarters of an hour in the day should be given to it.

17854. Have you any observations to make on the alternative scheme for girls?—My objection to the alternative scheme is entirely based on what I have seen in small schools, conducted by one teacher. Certainly the scheme was a failure there, one teacher, with the help of a mistress, was trying to manage a large class of girls in needlework or Mountblik

work, and at the same time attend to the rest of the school—it was quite impossible.

17855. Do the parents object to the alternative scheme?—Yes, they do.

17856. And it has been given up or not taken, in a great many cases?—It has not been taken up; I don't know any case where it was taken up and given up afterwards.

17857. You have some suggestion to make with regard to poultry-rearing, and egg industry, and bee-keeping?—Yes, I think if those things could be introduced into the schools in some way it would be profitable. The Irish people are very slow to take up anything out of which they cannot make a profit, and if our people could be shown some way of realising something on what they did in school when applied at home it would be very useful.

17858. What have you to say with regard to the grouping of extra subjects?—I think in mathematics and science subjects in National schools they could be grouped, instead of taking geometry, and algebra, and trigonometry separately, they could be grouped in three or four, copying the University plan or the Intermediate.

17859. Could drawing be made compulsory?—I think so.

17860. You think, therefore, that every teacher should be required to take it and teach it, that is every new teacher?—Yes, but I think there are many in the country quite capable of teaching drawing who have not certificates at all, and are debased on this ground from teaching it.

17861. Why can they not obtain certificates?—Sometimes the teachers don't like to go in for certificates, I cannot tell you why.

17862. Have you given any attention to the subject of elementary practical science?—Oh, yes, I think some course of elementary practical science should be adopted in National schools: I think the mental faculties of the children would be much better brought out and developed by having some scheme of instruction of this kind, but of course the difficulty of time comes in, when you are to teach it. If it could be taken up on Saturdays or outside school-time, such instruction would be very valuable. I would like to suggest that in National schools in Ireland the spirit of self-help ought to be impressed on the children. In this country it is very difficult to get on, people seem to want the spirit of self-help that go-ahead people have, and if the National Board took steps to infuse that spirit into the children it would be a very good thing indeed.

17863. REV. DR. EVANS.—Are you a school-teacher yourself?—No, I never was.

17864. Do you know anything of the instruction given at the Model Farm?—Well, I have had a good many communications with Mr. Carroll, but I don't know anything directly about it.

17865. You don't know whether it is a thoroughly good place for acquiring a knowledge of agriculture?—I believe it is.

17866. And that there is a very sound system observed there, and very useful instruction in training given?—Yes, I think so.

17867. To both the teachers and farmers' sons who come up for a period?—With regard to the teachers I think the time is rather limited—the time the teachers get there.

17868. Now have you read Mr. Carroll's Manual for Instruction in Agriculture in Schools?—He very kindly sent me a copy, I cannot say I read it very closely, but I am acquainted with the leading outlines.

17869. As far as you know it, do you think it is a reliable book?—Yes.

17870. CHAIRMAN.—Is it hard for children to understand?—If it is hard it is because it is so exceedingly simple; teachers complain, and say they cannot ask questions from it.

17871. REV. DR. EVANS.—You don't think it is

a book interlarded with polysyllables and difficult words that would require an etymologist to expound?—No.

17872. Do you teach about soils in your own work?—No, I give information when I can to farmers. I am generally in connection with the adult population.

17873. You would teach them about artificial manures?—Yes.

17874. Does it fall within your scope to teach anything about cattle-keeping?—Yes, all these subjects.

17875. How do you impart that instruction?—As far as my Organisation is concerned, we generally hold public meetings: we hold meetings of intelligent farmers—I hope in a great many cases very intelligent—and I am glad to say they are carrying out our suggestions closely. We talk quietly to those farmers; from local knowledge we know what the district wants, and we put before these people the best way of utilising anything that exists in the district for the purposes of their industry. The great fundamental idea in my work is to get the Irish people to adopt this principle of self and mutual help, and make use of it for their own benefit.

17876. I was deeply interested in what you said about the grouping of mathematical subjects, and would like to understand it a little better?—Suppose a teacher is preparing his sixth class for a results examination, I think that algebra and Euclid might be taken as one subject, and if sufficient proficiency were shown by a boy in Euclid, he ought to be allowed a pass in both. I think it should be taken as one result subject.

17877. And you would not think it serious if a teacher, at his own examination, passed in geometry, passed in trigonometry and two or three other subjects, if he failed in measurement?—That is in the case of a teacher, but we are talking of children in National schools.

17878. Would you think it right to give that man credit for having passed in all those subjects that are embraced in the group, although he happened to fail, because he was tired?—A teacher should have a knowledge of each subject in which he was supposed to qualify, but in the case of a child in a National school certainly geometry and algebra could be grouped together, and ought to be taught as one result subject.

17879. PROFESSOR FITZMAURICE.—Do you think that farming can be taught to children of about twelve years old satisfactorily?—I don't think so at all.

17880. What sort of agriculture could be taught to children of that age?—I think the taste for agriculture might be developed in children of that age. I think they ought to be taught to think about agricultural things, instead of thinking of looking for clockwork or something entirely beyond their sphere. In life—they ought to be taught something that would rather turn their minds towards what they would have to deal with afterwards.

17881. You think that the teaching of agriculture might run into a practical direction, such as elements of botany and collections of plants, and so on?—I think collections would be an excellent idea, of course teaching botany technically as such I would not recommend.

17882. Showing them examples of seeds growing I would call botany?—Of course it is, but I object to taking up a text-book, as a teacher would very likely do, and take it chapter by chapter. I would object to that, but teaching it by examples would be an excellent idea.

17883. Elementary science you mentioned; do you mean the elements of chemistry?—Just a little chemistry, so much as would apply to agricultural subjects. I think a farmer ought to be able to tell, if he saw the analysis of manure, whether it was good or a bad one, an intelligent boy at a National school ought to be able to advise his father on elementary things that would involve a slight knowledge of chemistry.

17884. Do you think that the teachers in the

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National schools here could be trained to teach elementary science in that way?—I think so.

17883. How would you train them?—A great many teachers have a very fair knowledge of elementary science already. Take an ordinary elementary course in natural philosophy, the only thing that would be necessary would be to give them a little training practically, to teach them how to carry out experiments for children.

17886. Do you think they would be willing to come to centres for that purpose?—I think so.

17887. Would the parents object to children being taught these things?—I don't think they would.

17888. And if the teachers were brought to centres for teaching these things, how long do you think it would take to train a teacher—two years?—Not at all, an intelligent teacher ought to acquire a sufficient acquaintance with elementary practical science in a couple of months.

17889. To begin teaching?—Yes.

17890. You think with that elementary practical science demonstrations on neighbouring farms would be more valuable than the present learning from textbooks?—Oh, yes.

17891. Captain SMYTH.—I think you mentioned that you would like some of the school farms to be turned into experimental farms?—That was suggested by Mr. Carroll, and it would be an excellent thing.

17892. Who do you propose to have charge of them?—Well, unfortunately, the only public body I can look to now is the Board of Education.

17893. Of the farm itself?—Oh, the teacher.

17894. Do you think a National school teacher is qualified to carry out agricultural operations?—Very few of them are.

17895. Is it not one of the most difficult things to make agricultural experiments and get accurate results?—I don't mean very highly technical experiments; I mean experiments such as would afford the farmers of the district an opportunity of judging whether the introduction of a certain thing was good or bad in the district, such as the introduction of a new seed or a new weed, or anything of that sort.

17896. Are not these experiments likely to be misleading unless they are carefully carried out?—Yes, but a teacher of ordinary intelligence ought to be able to carry them out very well.

17897. At what age do the students generally leave the National schools?—Some boys continue to fourteen or fifteen, but in the majority of cases they leave earlier.

17898. What opportunity would such boys have of putting their knowledge into practice?—On their father's farm; boys leaving the National school go to work as a rule on their father's farm.

17899. Do you think a father generally takes advice from a boy of fourteen or fifteen?—Well, my point in regard to this is, that I think the National schools in the country ought to be made something more than mere teaching centres for the children of the locality. I think the parents, the farmers of the district, should be invited to come to the school from time to time and see what was being done. If a school farm was in operation I think grown people ought to be afforded an opportunity of seeing what was done.

17900. Professor FITZGERALD.—Would not that be the business more of a technical school than of an elementary school?—I think a National teacher, if he is a good man, ought to be a sort of adviser in the district, and ought to be always available for the farmers of the country to consult him on any particular matter, not very technical of course, but what they would require to know.

17901. Mr. MOLLER.—On what amount of experience in point of time are the observations you have made based?—Have you since leaving school had any official connection with the National schools?—I have not had any official connection, but I have been a close observer of what was being done in National schools.

17902. In what locality?—County Galway and a good deal in Sligo, and some in Mayo, and recently I am going over my own district, as organiser, I very often visit schools.

17903. What is the extent of your district as organiser?—It is practically the province of Connaught, but I have been so busy recently that I have not left the County Galway.

17904. Then those observations are based on the experience of casual visits to a few schools?—Not a few, I have visited a great many schools.

17905. But not in any official capacity?—Oh no.

17906. Merely calling in to the school when passing by?—Yes.

17907. And spending how much time there?—From half-an-hour, or if I was very much interested I would spend perhaps an hour. I know I spent an hour watching children under the alternative scheme doing nothing.

17908. Do you take any part in the examination?—If the teacher allows me I ask questions in agriculture.

17909. Monaghan MOLLER.—Are you yourself a trained agriculturist?—Well, I am not trained.

17910. Where did you acquire your knowledge of agriculture?—I have had certificates in agriculture under the Science and Art Department. Of course you can hardly call those training, but when I was a pupil in a National school we had a model school farm attached to the school.

17911. Where was that?—In the County Sligo, and we received a certain amount of training on that. I may say I was, perhaps, one of the more intelligent pupils on the farm. I have not had any real training in agriculture as such.

17912. From your experience as an organiser do you think would the farmers generally in the district you are acquainted with be willing to allocate plots on their farms for the teaching of agriculture?—I don't think they would do it voluntarily, but if some consideration was given to them I think there is no district in Ireland where you would not get a suitable plot.

17913. Such a consideration would be, perhaps, if seed and manure were provided for them?—I think so, something like what the Congested Districts Board are doing.

17914. Mr. RICHARDSON.—Why do you think agriculture should be taught outside the school hours?—I think in school hours, where five or ten minutes is lost changing from one class to another, and the teacher trying to get over the work as quickly as possible, I am afraid the full time—the full half-hour—is not given to the subject, and, perhaps, if the day's lesson could be adverted to in the afternoon it would be very useful.

17915. Would not children benefit by the lesson better if it were taught within school hours, when their minds were fresher?—I don't know.

17916. Do you think that the present book, if illustrated by practical experiments, would be a kind of agricultural teaching you would approve of?—Yes, I think you could not have a better mode of education.

17917. Have you considered the programme laid down by the French Minister of Public Instruction?—Yes, I have looked over that, I think it an excellent idea.

17918. That consists of experiments in elementary science?—Yes, but it set about by giving the children a taste for their work, and this was followed up by experiments.

17919. Does it not profess to teach the sciences underlying agriculture, but not the agricultural processes themselves?—That is the case, leading up to agriculture.

17920. Would you not say that it differs from the programme we have laid down at present, and which is carried out in the "Introduction to Practical Farming"?—Yes.

17921. Which do you approve of most?—I think a judicious admixture of both would not be bad.

FORTIETH PUBLIC SITTING.—FRIDAY, OCTOBER 8TH, 1897.

at 5.30 o'clock, p.m.,

At the Imperial Hotel, Sligo.

Sligo.
Oct. 8, 1897

Present:—THE RIGHT HON. THE EARL OF BELMONT, O.C.M.G., in the chair; THE RIGHT HON. C. T. REIDINGTON, M.A.; THE RIGHT REV. MONSIGNOR MOLLOY, D.D., D.C.; REV. HENRY EVANS, D.D.; REV. HAMILTON WILSON, D.D.; PROFESSOR G. F. FITZGERALD, F.R.C.S.; STANLEY HARRINGTON, Esq., B.A.; W. R. J. MOLLOY, Esq.; CAPTAIN T. B. SHAW, and J. STEUTHENS, Esq., B.A.;

with J. D. DALY, Esq., M.A., Secretary.

Mr. THOMAS CHYAN, Teacher, Tonnabrack National School, Bellaghaderin, examined.

Mr. Thomas Chyan.

17912. CHAIRMAN.—You are the teacher of the Tonnabrack National School, Bellaghaderin?—Yes, my lord.

17913. Do you give evidence on your own behalf or on behalf of more than yourself?—Partly on my own behalf and partly on behalf of those teachers who selected me to appear. There was a meeting of teachers held in the Town-hall on last Saturday, and they selected two teachers, and I was one of them. It was not a very representative meeting of teachers; perhaps half of them were from the town and locality around here, but there were others from other parts of the county Sligo.

17914. How far from Sligo would the district that was represented extend?—Some of the teachers who attended there live 25 miles from this place.

17915. They extend over a large area?—Over a large area.

17916. You have given some attention to the question of manual work in schools?—Well, I have thought about it, but not very much, because I have no experience in manual instruction; I never did anything that way.

17917. Do you think that there would be time to put it in that way—that there would be time to introduce it without some alteration in the present programme?—I think there would not. My experience is that all there is in the present programme is a very heavy job for teachers and pupils to go through without adding to it, except the work would be outside school hours or on Saturdays.

17918. How long do you suppose the week would take in the week?—I have formed no opinion on that.

17919. Suppose it took two hours. Do you think it would be possible on any day in the week to secure two hours for the boys in the 5th and 6th standards?—Not if it is taught in school hours.

17920. Is there any day in the week in which there are not full school hours?—Except on Saturdays.

17921. Could it be introduced on Saturdays?—I believe it could.

17922. You are aware of doubt that there has been very little of it introduced into Ireland as yet, but the Commissioners have visited one school in the county Waterford in which it has been introduced, and the way in which the time was found for it was by somewhat shortening the time given to the lessons of those boys who were engaged in this sort of work. Do you think anything of that sort could be done generally?—I think not, except the requirements of the programme in some subjects were lessened; the amount of information required by the results examination should be made less than it is presently.

17923. Do you think that the plan adopted in this particular place, in Lismore, could be adopted generally, which I understand is by taking ten minutes out of certain subjects?—I think it could not; the majority of teachers find it difficult enough to teach the existing programme within the given time.

17924. Will you give your reasons; I see that you have a number of reasons, beginning with irregularity of attendance?—I said that at certain seasons of the year a certain proportion of pupils would remain at home; they are employed at farm work. These may remain at home for three weeks or a month in succession, and the part of the programme that the teacher has in the interval goes over with the pupils those at home know nothing about, and he has to commence it again and go over it with those who stayed at home. This has to be done at different periods of the year, and the consequence is that he has to teach the same matter perhaps two or three times on account of those absent pupils, and he spends most of his time with those pupils who were absent trying to bring them up to the level of the programme; he cannot spend his time with the pupils who attend regularly—he spends his time with them, but most of his time is devoted to bringing the others up to the mark, and it frequently happens he has to teach the same subject two or three times over, owing to these absences.

17925. What other reasons have you?—The principal reason is the difficulty of teaching explanation in the lesson books, which was not insisted on before.

17926. I don't quite follow you in that—I don't know what was done before?—What was done before was that if the pupils read the lessons with due attention to pauses, and read fairly, they got a pace in reading, even without knowing the subject matter of what they read. It was a general rule that they might get passes in all classes without knowing what they read.

17927. Do you think that a good system?—I think it is a very bad system and I think it is of great importance to insist on the lessons being explained, but it means a very serious increase in the teacher's work, because the lesson books are so extensive and so many pages, and it is a difficult matter for a young child attending school.

17928. Do you think any improvement could be made in giving more books and shorter lessons?—I examined some of the English readers and the number of pages is less, and the matter treated of in our books is matter more for men than for children.

17929. Some alteration in that respect would gain a little time?—Yes, if the books were shortened and made easier at the same time.

17930. What do you say with regard to the revised agricultural text-book?—I think that is a very serious increase on the teacher's work and the work of the pupils, because it is a much more difficult book and more scientific than the one used before.

17931. Whose book is it?—It is on the Board's list. It is the only book on the Board's list now. That is the book [producing Professor Carroll's book]. That is a much larger and more difficult book than the old book that we had to teach before this.

17932. Do you think that the teaching of that book is satisfactory—the results of the teaching of

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the book. Do you think the pupils understand more about agriculture than they did formerly before that book came in?—Perhaps they understand more of the theory of agriculture—the scientific knowledge that underlies the theory of agriculture; but it is a far more difficult book for the pupils to get up, and the teachers to teach, and it is expected that the pupils in sixth class will have a knowledge of all the matter treated of in the preceding classes. That is a very serious matter. I don't see how it can be done; and the second-fifth class must know the knowledge that is required for the fourth and first-fifth, and the sixth must know not only the special knowledge required for their own class, but all learned in the preceding classes. It would be something like if a pupil in sixth class was examined in reading, and had to get up the reading of the fifth and fourth class, and to be liable to be examined on it.

17943. With regard to attendance many of the pupils don't make a sufficient number of attendances required for results fees?—A good many of the pupils don't make 100 attendances, and cannot be examined, and a good many of the pupils don't make many over 100—perhaps from 120 to 130.

17944. You think you are not likely to increase the attendance unless you get compulsory education?—No; I think the teachers are doing as much as at present they possibly could do.

17945. You are not in favour of getting compulsory attendance?—I would like to get it, but I don't see how I can.

17946. You would like the present programme to be changed in some respects?—I think so. Even apart from manual work the pupils would be much better off if they were taught less and taught better.

17947. Suppose they were taught less and taught better, would you be in favour of getting a couple of hours for manual instruction?—I think that could be done if the teachers were trained to do it, and if some of the subjects were changed there might be time got.

17948. If you were to curtail the programme at all in what respects do you think it could be curtailed with advantage?—I would curtail it in grammar and geography, and I think there is far too much arithmetic required for most of the pupils attending our schools. They never have any necessity for this advanced arithmetic afterwards. They have to have a knowledge of arithmetical and cube root.

17949. Do you think too much time is given for spelling?—I do. I find spelling is a very difficult subject to teach or have a boy proficient in. There came a pupil to my school who got his leg cut off in England. He was twenty-seven years of age. He commenced at the alphabet; he went through to the fourth class. He told me he found it far harder to learn the spelling than all the other subjects put together. The books are so hard, and the lessons so long, and the words so difficult that it is hard for children to get up the knowledge required for the results examination. If the lessons book were made smaller that would be done away with to some extent.

17950. Do you think that the present system of results fees depending on individual examination of the pupils is not a good one?—I think it is a very bad one. It often happens under it that those pupils that the teacher has to spend most time and patience with, instead of bringing credit on him for the trouble, being discredited on him, because if there are two or three stupid pupils in the class that fail, and get bad marks, it means the teacher will suffer in money and reputation, and he really deserves more credit for what they answer than for what the good ones answer, because he spends more time teaching them than he does the good ones. I think when the majority of pupils are well and sufficiently taught it proves the teacher did his duty, and he should be paid for all the class.

17951. What do you think about the teaching of agriculture generally—do you think it would be more important for the pupils to have a practical knowledge of the best methods of cultivating crops than the theoretical knowledge they acquire at present?—I think it would be of much more importance to the majority of the pupils. They have to get up a lot of theoretical knowledge that never will be of much use to them, and they don't know the best methods of growing the crops that are grown in their localities by farmers.

17952. What scheme would you propose to give these practical knowledge?—I think it would be a good thing if there were a school garden attached to each school, and small plots of the various crops grown in the locality cultivated there to show the different varieties of seeds, and make the pupils cultivate those, and show them in the various stages of growth, and when they saw the superiority of these crops to the crops on the surrounding farms it would be a very good object lesson to them to improve their own farms when they became farmers hereafter.

17953. What sized plots would you suggest?—Half an acre would be sufficient. I think it would be a very important thing if there were some of the common vegetables grown, and perhaps that there were some flower plots, because the habits of neatness that would be shown to the pupils might have an effect on them when they go to their own homes to imitate those habits.

17954. Do you think that in the district you represent it would be easy to acquire plots?—Well, I think it would.

17955. In what way would you do it—would you follow what I understand the Congested Districts Board have begun to do, acquire plots by renting them from the farmer who happens to have land in a convenient situation?—I think they could be got that way, or bought up by the Commissioners, or the Government might advance money for buying the lands permanently.

17956. But the evidence we got yesterday in Galway showed it would be probably far easier to rent the land than buy it?—I believe it would. I believe if there was encouragement given there are many teachers in my locality that have land and don't carry on operations under the Board, as it seems the conditions for doing it are not favourable. I know many teachers who have land and don't cultivate school gardens or plots for the Board.

17957. What class of subjects would you include in manual training?—If manual training means the training of hand and eye, I think there is a great deal of manual training already given, although it is not called by that name. I think drawing is a very good training and writing an exercise, if neatly done.

17958. In any system of manual training, drawing is necessary as a foundation for it; they must draw to be able to do work properly. You suggest, I suppose, that the manual training suitable to a school, would not be the teaching of a trade, which is no part of our business to acquire into, but making a boy handy and efficient, so that he could apply whatever knowledge he gains, by thinking of the work he has to do with his hands?—Yes, that is what I think.

17959. Do you think that the present teachers, of whom many, no doubt, have been through the Training Schools in Marlborough-street, and I suppose many have not, would be either competent, or able to make themselves in a short time competent to teach, or do you think it would be necessary to employ special teachers to teach anything in the shape of woodwork, or metalwork of that sort?—That would depend on the knowledge that these teachers possessed; if they were taught in a training college, and had a fair knowledge of it, they might do it, but the ordinary teacher, who did not learn it in the training college, could not do it well, and it is better not to teach a subject at all if it is not done well.

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17980. What do you think about the industrial scheme for girls?—The female school attached to mine, which was taught by my wife, taught it for six months, and she had a large sixth class, but most of them stopped at home, and the manager had to write to the Board and get permission to go back to the old scheme.

17981. Rev. Dr. Evans.—Could you indicate the reason the people have for doing this?—The people say if they want their children to learn a trade or bookmaking, it is better to send them to a proper place to learn the trade, and that they should not become bachelors. They say they have too many of these in the country already. If a girl, for instance, is taught bookmaking in the school, and cannot do the business well, she will get nothing to do when she sets up for herself afterwards, whereas if she goes to a regular place, and learns the trade properly, she will.

17982. I understand that neither you nor those you represent, are opposed to any modification of the present system tending to the advantage and welfare of the pupils of the country?—We are not opposed to any scheme that is for the advantage of the children, but we think the time already given to literary instruction is worse enough.

17983. Mr. Remondet.—Do you teach many extras in your school?—I take extras for the Science and Art Department, and I teach drawing and algebra for the Board. I taught hygiene.

17984. Those are extra classes?—After school hours.

17985. Is drawing taught generally in your district?—It is not.

17986. Do you think it is important that it should be taught universally?—I think very important. I know it is very popular; in my school pupils like the subject well.

17987. Do you teach any science subject under the Board?—I taught algebra and I taught hygiene, but I generally teach the science subjects for the Science and Art Department. I taught mathematics and sound, light and heat, and hygiene for the Science and Art Departments last year.

17988. Have you many pupils?—I had seventeen examined on mathematics, twenty-one on sound, light and heat, and nearly thirty on hygiene.

17989. Why do you prefer taking these subjects up under the Science and Art Department?—Because they pay more money than the National Board, they give £3 for a pass where the Board only give 3s.

17990. Mr. Strathmore.—Do you also get a grant from the Board?—No, you cannot get a grant from both departments for the same subject.

17991. Mr. Remondet.—Do you teach them experimentally?—I taught a little experimentally this year, and much less other years, because although I believe the experimental teaching is the best, it takes far too much time for a teacher who wants to earn results in the shortest way.

17992. Would not the pupils learn the subjects better?—They would, but the apparatus is very expensive, and beyond that it takes longer to give a lesson experimentally than a lesson out of the textbook.

17993. Perhaps it is better than a lesson out of a textbook?—As far as the examinations are a test of the knowledge acquired I did better out of the textbook.

17994. I think you said that some teachers have plots of land in your neighbourhood and yet do not go in for practical training in agriculture?—They do not.

17995. Why?—I could not say; I think they don't think the fee that is given sufficient to pay them for the trouble, because when the Agricultural Inspector comes to examine the farm he suggests a lot of improvements, improvements in out-offices, and the outlay would be too much, and the money received in results fees would not recoup them.

17996. Do you know that the fees have been increased?—Yes; I may say I was up at Glasnevin

myself and intend to start this business if I think it can pay.

17997. How long were you at Glasnevin?—Six weeks.

17998. Do you think the course did you good?—I think it did me over so much good.

17999. What lectures did you attend?—In gardening and general farm work, and how the crops are grown.

18000. Did you receive any lessons in chemistry?—No. There were lectures on zoology from Dr. McWenney.

18001. How many lectures in zoology did you attend?—I attended all the lectures that there were, but he went away before the six weeks were up. I did not come in for a complete course of lectures on that subject.

18002. Have you any suggestions that could help us in modifying this arrangement; do you think it would be desirable to have a complete course for those who, like you, come up from the country to study?—It would be very hard to have a complete course owing to the shortness of the time.

18003. But if there were a lecture every day?—Yes, or two lectures a day.

18004. What subjects do you think could be dealt with that way?—It is difficult to say, perhaps. An elementary knowledge of geology and botany, and those subjects that underlie agriculture, would be very useful.

18005. If you had gone through a complete course of elementary chemistry you might find it easier to give experimental lectures to the pupils in your school?—There is no doubt of that whatever.

18006. You said that you disapprove of the results system as at present carried out?—I do very much.

18007. Speaking generally, what changes would you make?—I think in some subjects that there should not be individual examination of pupils, or that the results of the teacher's work should not be judged by the individual examination.

18008. CHAIRMAN.—Are there any subjects in which you think it would be well still to retain individual examination?—In arithmetic it should be retained.

18009. It has been suggested to us by one witness that it would be desirable to retain individual examination in reading, writing, arithmetic, and drawing, but not in the others?—I was going to say so, I think in grammar and geography the work could be done as well by examining the class generally.

18010. Mr. Remondet.—That is you would keep to individual examination on the subjects the Chairman has mentioned?—Yes, but I would not pay the way it is paid now. If sixty boys were taught drawing, and there were two or three boys out of the sixty that could not do the exercises well, while the rest did them well, I think the teacher should be paid for these two or three as well as for the rest.

18011. In drawing would you still have the examinations individually?—Yes; I don't see how else it could be judged.

18012. If the inspector saw you teaching and then saw the work done by the boys?—Yes, that would be better.

18013. Is there sufficient weight given to order and discipline of the school in estimating the value of the results?—I think the order and discipline are very important factors in a school, and they are never taken into account; there is no money value attached to them, and they are more useful to boys than some of the subjects paid for, perhaps more. If a boy gets orderly habits in school it is more important than a knowledge of a lot of geography that he may never require.

18014. MESSRS. MCGLOTH.—Are you a trained teacher?—I am not; I was never trained, but I have the highest class under the Board.

18015. You are classified first of first?—First of first.

18016. Perhaps there was no training system when you were preparing to be a master?—I think there

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was, I got a second of first in 1873, and first of first in 1880. I believe they were in existence then.

17997. You were selected at a meeting of your colleagues in this locality to give evidence on their behalf, in reference to the introduction of manual training?—Yes.

17998. How many teachers attended that meeting? Well, I don't know the exact number, but I think there were near twenty.

17999. They came, I suppose, from 8195 and the neighbourhood?—There were six or seven teachers from other parts of the county.

18000. I think you said that you yourself had no experience of the teaching of manual work in primary schools?—I had not.

18001. Had the other twenty any experience of the teaching of manual work?—I cannot say.

18002. Then, as far as you know, you were all equally inexperienced in the subject into which we have to inquire?—I cannot answer for the others; I only answer for myself, that I know nothing about the business.

18003. I think you said your principal reason for objecting to the introduction of manual teaching is that you fear the other subjects which are taught in the school would suffer?—Yes, if the requirements are not made less, or if the system of examination be not changed.

18004. But if these conditions were fulfilled, then would you be in favour of the introduction of manual training?—I would, if it was an advantage to the pupils.

18005. But the question is, whether it would be an advantage to the pupils to introduce it, and you say it would not be an advantage if it interfered with the literary subjects?—If it diminished the time given to literary work at present in the school, I think the time given at present is little enough.

18006. The evidence we got from those who have experience of the teaching of manual work in schools, is that wherever it was introduced, the proficiency of the pupils in the literary subjects was greatly increased?—Well, they were in a position to judge, I am not.

18007. If you were satisfied that this was the case, then your objection to the introduction of manual training would disappear?—Certainly, if it was an advantage; I think I said so in my statement.

18008. I think you also told us that the attendance at the schools generally is very irregular and unsatisfactory?—Yes, in the rural schools.

18009. Well, we have also got evidence that wherever manual work was introduced, the attendance at once improved, the children came more regularly, and in larger numbers, and remained at school to a more advanced age?—That is a great argument in its favour.

18010. Mr. MOLLON.—Kindly describe your school, is it a rural school?—It is a rural school.

18011. What is your post town?—It is five miles from Ballaghaderin—a wild, mountain district.

18012. What is your average attendance?—Sixty to seventy.

18013. How many of these in the senior division, fourth, fifth, and sixth classes?—There might be forty, or perhaps more; sometimes the sixth class would be twenty-five or thirty.

18014. What extra branches do those pupils learn?—I have stated already I teach drawing always; I am teaching algebra this year for the Board. I taught hygiene for the Board, but I teach for the last sixteen years classes in connection with the Science and Art Department, and, as they pay better, I don't go in for many extras for the Board.

18015. The classes in connection with the Science and Art Department are taught in the evening?—Yes.

18016. Are they attended exclusively by your own pupils?—I might have a monitor from another school, but most of them are my own pupils.

18017. Mr. STURTEVANT.—Are they all pupils

attending the school?—Invariably, and they wait for the Science and Art classes after the school is dismissed.

18018. Mr. REYNOLDS.—Where do they get their dinner?—They don't get their dinner, perhaps, until night.

18019. Mr. HARRINGTON.—They live on the education you give them?—It helps them to live afterwards, perhaps.

18020. Mr. STURTEVANT.—Are classes held in the afternoon or evening?—From half-past three to half-past four o'clock, and on Saturdays.

18021. Mr. MOLLON.—Is drawing to scale taught in your school?—No, only freehand drawing.

18022. With regard to the examination of the school, if I mistake not, you said you were in favour of all the pupils being examined. Do you mean all the pupils on the roll, or simply the pupils who have made 100 attendances alone, with a view to payment?—Oh, no, of the pupils that make the attendances.

18023. What do you propose in the case of the pupils who do not make the attendances?—I think those pupils who make the attendances in two years—fifty one year, and fifty in another—should be examined then, but it is not allowed under the present rules.

18024. Would you be in favour of having class examination in all subjects?—I would not.

18025. You prefer individual examination in certain subjects?—I do in arithmetic and writing, but, if the writing is general in good, it is only fair that all the pupils should be paid for.

18026. Your school being a rural one, have you any school garden attached?—No, I have not.

18027. What are the subjects you take up for the Science and Art Department?—I take different courses different years. I taught mathematics, agriculture, physiography, geology, sound, light and heat, hygiene, and magnetism and electricity.

18028. What are your school hours?—From nine until about five, perhaps longer preceding the examinations.

18029. And then you take up Science and Art classes?—That is inclusive, from nine to half-past three for the ordinary school; after that the Science and Art work.

18030. That is really eight hours continuous teaching?—Yes.

18031. Do the pupils bring any luncheon with them?—Of course they take luncheon at playtime, it would be very hard that they should be without luncheon.

18032. CHAIRMAN.—What do they eat at luncheon?—A piece of bread just.

18033. Mr. STURTEVANT.—Is there any interval between the afternoon attendance and the beginning of the Science and Art classes?—No, there is not, as soon as one is over the other commences.

18034. Mr. MOLLON.—You dwell on the great importance of order and discipline, and especially that these should be recognised in some pecuniary way?—I think so.

18035. Would you think of reverting to the former practice of the National Board, viz.—giving a special pension for those—there was a time when there was a special grant of 45 in the year for order and cleanliness?—I think it was a very valuable and useful prize; the orderly habits a boy acquires are of great importance to him in after life.

18036. Mr. HARRINGTON.—Do you teach agriculture experimentally in any way in your school?—No, I do not.

18037. You received a training you say, I think, at Glasnevin?—Yes; but last July only.

18038. Did you intend, then, to introduce it?—I do intend.

18039. Bringing the boys out in the fields and showing them the crops?—Yes, after a time; that is in anticipation that this Commission will report favourably on the business of increasing the payments.

18040. What do you mean by hygiene?—A subject that relates to the general laws of health. It includes the elements of human physiology, the processes of digestion and assimilation; there is a certain elementary knowledge of that required.

18041. Is laundry work taught in any of the rural schools in your district?—It is not.

18042. Would you be in favour of its introduction into the schools?—I don't know; I have no experience to guide me in giving an opinion on that matter.

18043. Have you anything to say about kindergarten?—No, I don't know anything about it. I never saw it taught, and do not teach it.

18044. Mr. STRAUGHAN.—I think your objection to having the hours devoted to literary work shortened was that you could not get the boys to pass the examination?—Certainly.

18045. But you don't think the boys' education would suffer if the examination were modified?—I think not; it would improve them in some ways.

18046. As regards the books which they read, does that help them to read intelligently, generally, learning out book by heart?—Heretofore, when the explanation was not insisted on, they read the books mechanically, but they did not know what the books meant. If you asked them questions on the subject, very few could answer.

18047. Is the subject of the Lesson Books much more difficult to comprehend than a leading article in a newspaper?—Much more difficult, and I think it is proved by the fact that I saw in the report of the Commissioners, that with all the teachers going to be examined for training the lowest subject on which they answered was on the Lesson Books.

18048. You think if the demand for reading were modified the pupils' education would not suffer?—I think it would be improved very much.

18049. And the same applies to arithmetic?—I think there is too much arithmetic required at present; if they knew a smaller amount and better, it would be much better.

18050. Do you regard your pupils as sources of income to a certain extent, and turn them into money making machines?—I do not. But the manager's opinion and the inspector's opinion and that of all who have control over me will be formed to a certain extent on the money I make.

18051. Do you think you would be able to give your pupils a more satisfactory education if your own salary did not depend on passing each individual one?—I think I would if the result system were modified.

18052. As regards agriculture will you tell us how many different subjects are included in that book of agriculture, it is divided roughly into divisions is it not?—I have the official paper; in fourth class should answer intelligently in the following subject as treated in Part I, "Cultivation of land &c," that means sixty-seven pages. In the fifth class they have to answer on manuring and manures, rotation cropping, gardening, including flowers and fruits, and in addition to what is required in the fourth class, the fourth class have to get off sixty-seven pages and this class 142 pages. Then the second-fifth class have to get in addition to that live stock including horses, cattle, sheep, swine, poultry and bees, that means 106 pages of new matter in addition to the 142 pages in the other two classes. I don't see how this can be taught in one year unless there is some change made in the matter.

18053. To answer questions in that do the children require to know nearly by heart most of that book?—They do, they want to have all the figures and facts off by heart; how many pounds of seeds required for an acre of any particular crop.

18054. And the description of all these cattle and animals?—They are liable to be asked a question on every part, and it is only those who teach it know

how difficult it is to get that knowledge up and they have to get off a good deal about agricultural machines that they never saw, and never will see in remote places; it is very hard for a teacher to get a knowledge of them from the diagrams in the book.

18055. Do you think it would be preferable to teach them the elementary sciences which underlies agriculture, some slight knowledge of the growth of plants and botany?—I think it would be far more interesting.

18056. Do you think as a practical teacher you would be able to make them understand the thing more thoroughly by practical demonstration?—I think so, because in teaching for the Science and Art Department, that is what you have to teach and the pupils take more interest in it than in the Board's agriculture.

18057. What is the attraction for the students to attend the Science and Art classes?—It is to give them a good education, and they are trained to write out what they know, properly.

18058. They simply attend for the purpose of being educated?—Yes, and with a view that it will help them to get posts as teachers and other positions.

18059. And with a view of being educated you find the pupils are willing to attend an extra hour a day?—They are.

18060. So there might not be any difficulty in prolonging the school hours if the instruction was satisfactory?—I think so.

18061. I suppose you have got the Science and Art Department certificates for passing the examinations?—I have.

18062. Have you ever attended any course for teachers?—I have not, with the exception of Glasnevin.

18063. Have you ever had any training in experimental work?—I never had.

18064. Then it is rather hard for you to make experiments?—I have a good deal of apparatus on some of the subjects, I have about 425 worth of apparatus, and I make a few experiments, and when the pupils see a few experiments performed, and that they agree with what they see in the book it will give them confidence in the other statements in the book.

18065. Don't you feel you would be in a better position to give instruction if you had attended a practical course yourself?—I have no doubt about it.

18066. You suggest that it was most important that children should be taught orderly habits, neatness and accuracy, would you be in favour of teaching a subject that would directly lead to these?—I think it would be an advantage to the pupil.

18067. Rev. Dr. EVANS.—I think you said that you were not trained?—I did.

18068. Were you educated in a Model school originally?—I was not, I had to learn it all myself whatever I learned.

18069. Had you any training either in the position of monitor or pupil teacher?—No, I never was a monitor or pupil teacher.

18070. How many half-hour lessons have you in the day in your school?—I would have to take some time to answer.

18071. You did not think of bringing a time table?—No.

18072. Do you teach drawing?—I do.

18073. How many pupils have you in drawing?—I teach as an extra teacher drawing to the girls, also I teach boys from third class up, I have about 100 examined in the year.

18074. In your own school?—I teach all from third class up in both schools.

18075. Do you teach algebra in your school?—I do as part of the mathematical subjects for the Science and Art classes.

18076. You don't teach it under our Board?—I am teaching it now, but I was not teaching it last year.

18077. What manuals of arithmetic do you use in

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your schools?—For the Board it is the arithmetic on the Board's list we must use, but for the Science and Art Department we use different books.

18078. You know this book (*O'Sullivan's Principles of Arithmetic*), you believe that that is a good book?—I cannot say that, because I never studied it.

18079. What one do you use?—The *Civil Service Arithmetic*, and Hargis's and Thom's.

18080. Yes, of course, send in your pupils for examination in arithmetic by the Board's Inspector?—Yes.

18081. Suppose somebody were to say of you that you did not teach your pupils to know the difference between millimetre and centimetre, would you be rightly spoken of?—I would.

18082. Do you believe that is true with regard to schools generally?—I cannot say anything for schools generally, but I know it might happen in my school, they might know it and they might not, because there is no theoretical work required.

18083. Here is Professor O'Sullivan's *Arithmetic*, and you know he was one of the Professors in the Board's Training College, and in the third paragraph under subtraction, he says: "In an exercise in subtraction the larger of the two given numbers is called 'the minuend, the smaller of the two is called 'the subtrahend, the difference when found is commonly spoken of as the remainder.' Is there any difficulty in making children acquainted with that?—No, I think it is very easy if it is taught.

18084. Do you think it would be harder to teach pupils manual subjects than it is to teach that?—Well, I cannot say, I cannot give an opinion on manual subjects that I am not acquainted with.

18085. Have you commenced explanation along with reading in your school?—I have.

18086. When did that begin?—It commenced since last February in a special manner, because they were examined at the results examination in February in the explanation.

18087. Will explanation of the reading lessons, as now required, take up more time in your school?—A lot of it.

18088. Will it take up more time in the schools generally?—I think it must because it is a difficult thing.

18089. Do you think the teaching of explanation along with reading would make it any more difficult to introduce manual instruction?—I think half an hour was sufficient for teaching them reading heretofore, and now when the explanation is insisted upon it will take more than half an hour, and if that takes more time ought to remain for the manual work.

18090. Mr. STREETMER.—Half an hour a day?—Yes.

18091. Rev. Dr. EVANS.—Do you think it will cause a revision of the time tables to be made?—The teacher must lengthen the lesson or give it at some other time to make them pass the results examination.

18092. Do you think you could take five minutes off each lesson in the course of the day?—Of course you could.

18093. How much would that gain you?—Half an hour?—It would gain five minutes for every half hour lesson.

18094. Professor FREDERICK.—You think that the present reading books ought to be shorter?—I think they ought to be shorter and simpler.

18095. If they were simpler do you think it would be necessary to make them shorter still?—If they were simpler there would not be such a necessity for making them shorter, but still they are very long, and longer than the readers in English schools.

18096. Do you know that the English schools are required to have two and three readers?—No, I do not. Are they liable to be examined in these?

18097. Yes, and in unseen passages besides?—No, I was not aware. I know some of my own children when I got specimens of the English Reader—a boy

in the fourth class, for example, he would read and enjoy a Fifth Reader in England much better than the Fourth Reader with us, and I think it is an easier book.

18098. That is, it would be more important to make them simpler than to make them shorter?—I think so.

18099. They would be more likely to read them themselves?—Yes, and have the matter interesting.

18100. You don't think the present books are interesting?—I don't think they are suited for young children, they are books for grown-up people.

18101. You said that the present teachers would not be able to teach manual instruction?—I meant those teachers who were not trained.

18102. Do you think the teachers would be willing to learn, for instance, drawing?—I am sure they would.

18103. Suppose there was a centre made at Sligo and a teacher was sent round to give lessons on Saturdays, do you think the teachers from neighbouring districts would come into Sligo in order to qualify?—I think so.

18104. If at the same time a teacher went round and saw them give instruction in drawing in their own schools and gave them advice about it, do you think that would help them?—They would want to have a knowledge of drawing before they could teach it in their schools.

18105. You might have a two years' course for the teachers, in the first year they might come in to be taught, and in the second year they might have the teacher going round and giving them lessons on Saturdays to improve their proficiency, and at the same time give them advice when they see them teaching in their own school?—I think that would be a good thing.

18106. Do you think other drawing besides freehand would be desirable to introduce, for instance, drawing to scale?—I think it would be very useful, because for those who wish to become artists or tradesmen it would be very useful for them to be able to draw to scale.

18107. Perhaps more useful than freehand?—I think so.

18108. Then some of the freehand drawing might be diminished and scale drawing introduced instead?—I think it would be a great advantage.

18109. And you think the teachers about here would be willing to learn it?—I think they would, anything that would tend to their own improvement or that of their children.

18110. If there was a new programme in agriculture of a more experimental kind introduced, in which the teachers were expected to make experiments, and show the pupils the growing of plants, and pull them up and show the roots growing?—That is what I say, that in the plots attached to the school gardens that could be shown.

18111. Do you think the teachers would be willing to qualify to teach that sort of agriculture?—I think there would be no qualification necessary. I think the teacher who could teach that book could teach what you say.

18112. You said you thought it desirable that you, for instance, when you went up to be trained, should have had a course in science, for instance, chemistry would be an advantage to you?—I knew a fair share of chemistry before I went there.

18113. Where did you learn it?—From a book.

18114. Does not the Science and Art Department require some qualification in the teacher?—You must have a First Class Certificate in the advanced stage; I went in for their examination and took passes in those subjects I teach.

18115. Supposing there was a teacher sent round to give elementary science instruction, as I have described drawing, do you think the teachers about here would be likely to qualify?—I think they would, and it would improve them very much.

Slips.
Oct. 1897.
—
Mr. Thomas
Clyde.

18116. Do you think that needlework is any use for girls?—Oh, I think it is.

18117. Do you think that besides its being of practical use to teach them how to make garments for their children and husbands, and so on, do you think it makes them observant, and careful, and neat?—Oh, I believe it does, if they work neatly it should.

18118. Do you think it is desirable that boys should be trained to be despatched, and careful, and neat, and accurate?—I think it is.

18119. Then you think some practical work similar to needlework would be useful to boys, I don't mean of the needlework kind but some other work?—I think it would.

18120. Then you think it would be desirable, educationally, for the sake of the boys that some manual training should be introduced?—I believe it would, but I can form no opinion of it, because I have no experience of the matter.

18121. Do you think it would be possible to get the teachers to encourage the boys to make collections of plants and inferior fungi?—I think that is a thing in which they take the greatest interest. I don't know about the teacher, but I know the pupils would be interested in that class of work. If there were any elementary science teaching going on in the school they would undertake such work as that very eagerly. I think it would be of the greatest importance to the children to teach them to observe things around them. I think it is of very great importance.

18122. Mr. SMITH.—Is yours a big school?—It is not; it is a small school.

18123. A mixed school, boys and girls?—No, it is separate; for the boys' school there are about 110 on the rolls; there is a girls' school adjoining.

18124. CHAIRMAN.—Have you an assistant?—I have an assistant for the boys.

18125. Mr. SMITH.—And the girls' school is done by?—It is attached to mine.

18126. Under the same management?—Under the same management and under the same roof.

18127. Who teaches in that?—My wife.

18128. Do any of the girls attend these Science and Art classes?—They do, and pass as creditably as the boys.

18129. A large proportion of the pupils who go in for the Science and Art examinations are girls?—They are.

18130. Then they are willing to attend in the afternoon to receive instruction in light, heat, and hygiene, and mathematics, in order to pass the science and art examination?—They are.

18131. Would it not be more useful for these girls to attend lessons in cookery?—Cookery is part of hygiene.

18132. They learn from a book?—They learn some of the knowledge that underlies cookery, but they don't learn practical cookery.

18133. It would improve their education to have some instruction in practical cookery?—It would.

18134. And there would be no great draft on their time apparently, seeing that they are able to take Science and Art classes?—Yes, provided it is after school hours, but then where would the material for practical cookery be got.

18135. Where did you get your apparatus for teaching for the Science and Art?—There was a grant made for that, and if we could get a grant for cookery it would be popular.

18136. Do you still teach the Science and Art classes?—Yes; anything that is well paid for, people will try to teach it.

18137. We are discussing at present the most suitable kind of education?—I think so far as girls are concerned, to teach science is a good training, because it is a written examination and they must be taught to express themselves properly and give a complete answer, and when they are instructed in one science they have a valuable training in expression and composition.

18138. PROFESSOR FITZGERALD.—That is that science gives them instruction in literary subjects?—Yes.

18139. CHAIRMAN.—And incidentally gives them instruction in grammar and spelling?—It does, and apart from the knowledge of science subjects, the training is very valuable.

18140. Mr. SMITH.—Does it not teach them to talk about things that they have never seen or had practical knowledge of many things that I teach.

18141. Do you present them in the advanced stage?—Yes; I presented pupils last year in geology, agriculture, and mathematics.

18142. And you got passes in those three?—I did.

18143. This book on practical farming is the basis of your teaching in agriculture?—Yes, we are commencing that now.

18144. You had a similar book before?—No, that is quite a different book; if we teach the old book there is no copy of it at the Board's store.

18145. May I ask is paragraph 3 in the old book?—No, it is in the book I teach for the Science and Art Department.

18146. And a similar question on the experiments on pages 73 and 74 about weighing the ash of the plant and applying it as a manure?—None of those experiments were given in the old book; this is a much better book, but it is much more difficult for the pupils to learn, and it will take more time to teach it.

18147. But these are very useful experiments?—They are, I allow.

18148. And if you were teaching this book you would do these experiments in the school?—That would depend on the state I had. If there was no such thing as the results examination, I would make the experiments, and I think the teaching would be far better.

18149. Is it the custom to learn this book off by heart in preparing for the examination?—There must be certain parts learnt by heart; the date of sowing crops and the quantity of seeds.

18150. And it is not learned straight off page by page?—It cannot be learned straight off.

18151. Might the inspector ask such a question as "Describe the Black-faced sheep"?—He might; he is liable to ask any question; you don't know what question he will ask.

18152. You have heard such questions asked?—I have; I, one year, had boys in the fifth-second, and I had one boy who had no book at all in agriculture, he used to lose every book he got; another boy was a very good boy and both were examined in February, and the good boy got a 0, and the boy who had no book got a No. 1 pass, and the boy that got a 0 passed in the Science and Art examination afterwards in agriculture in the following May.

18153. You have not given us a specimen of the questions the inspector put?—I don't remember the questions but I know the results were disastrous to me.

18154. Would the children in examination be asked to name such things as these various flowers that are to be grown?—I believe they will in the future: these were not in the old book. They are liable to be asked anything in the book.

18155. It says, "poor neglected land produces ox-eyed daisies, black heads," and a number of other plants; do you show these to the children?—I do not.

18156. Are those mentioned in the old book?—They were not named in the old book.

18157. You don't teach the children to distinguish these?—I have not time, for with us such knowledge is not of use at the results examinations. If the inspector asked them to go out and gather specimens in the field I would teach it, but what I teach now in what will pass a paper at the examinations.

18158. But as a matter of proper teaching?—I would infinitely prefer to teach it as you suggest.

Shigo,
Oct. 8, 1891.
Mr. Thomas
Cryan.

18169. Suppose you were certain he would not ask any questions about them, would you teach them at all?—I would teach what I consider the inspector would probably ask.

18170. In fact your teaching is to teach a minimum that would secure a pass?—That is the object of all teachers in my opinion, they cannot help it.

18171. Rev. Dr. Evans.—And that is the reason you do not explain arithmetical and subtrahend?—Certainly.

18172. Rev. Dr. Wilson.—Your opinion is that the programme as it stands fills up the school hours?—Yes.

18173. Would it be possible without diminishing the efficiency of the teaching or reducing the number of the subjects, to do less in grammar, less in arithmetic, and less in geography?—Yes, I think so.

18174. And gain time to apply to manual instruction, do you think that would be an advantage?—I don't know whether it would be an advantage or not, but I think in order to get time for the manual instruction it should be done. Those who are acquainted with the manual business would be better able to give an opinion than I am.

18175. Could all these subjects, in your opinion, be reduced in time?—I think they could with advantage to the pupils; I think there is far too much of these and they are all imperfectly taught; I think in general, that much less matter more efficiently taught would be of far more value to the pupils.

18176. With regard to this proposal to examine those who have given less than 100 attendances in the year, do you think that that would lead to great abuse?—I don't know how.

18177. Would it not come to this, that there would be attendances of 80, 80, and 70?—No, I don't think it would. There are pupils coming to my school off and on for five and six years that never make 100 attendances and they are never examined at all, they might make forty or fifty each year, it is the same pupils invariably that make the low attendances as a rule every year.

18178. Do you consider 100 attendances a very fair minimum?—It is very hard to bring the pupils up to the requirements of the results programme in time.

Mr. JAMES FREEMAN, Head Master, Sligo Model School, examined.

Mr. James
Freeman.

18181. CHAIRMAN.—You are the head master of the Model School?—Yes, sir.

18182. And you are willing to give the Commission whatever information you may possess upon the subject of the teaching of physical science and elementary chemistry, as formerly taught in the Board's Model Schools?—Yes, sir.

18183. Mr. MOLLOY.—At present your position is that of head master of the Sligo Model School?—Yes.

18184. And if I mistake not, you have occupied that position for a great many years?—Thirty years. Since 1867.

18185. And previously had you not acted as assistant in several other Model schools?—I did, in three or four—Coleraine, Ballymoney, and Ballymena, and in addition to that, I was assistant to Dr. Clarke, who was a professor under the National Board.

18186. Was he not Professor of Physical Science and Lecturer on Physical Science to the National Board?—In the Board's Model Schools, and Central Model School.

18187. Would you briefly describe the plan adopted by Dr. Clarke in the course of his lectures; first of all, he attended a certain number of Model schools, how many of these in the country?—Nearly every one of the schools open at the time.

18188. CHAIRMAN.—What is the greatest number of attendances that a boy could make?—812 or 813.

18189. Mr. REDMOND.—Have you taught agriculture for the Science and Art Department?—I have.

18190. Did you use a book when instructing your pupils with a view to that examination?—I did.

18191. What book?—Twelve or thirteen years ago I used Professor Tammes's book, but that would not be sufficiently extensive now. I use Professor Webb on advanced agriculture, and I use for the elementary stage, the simplest written book on agriculture that I ever read, Lawrence's, published by Chambers; it is written in the simplest and nicest language for children I ever read.

18192. You put that book into the hands of your pupils?—Yes.

18193. And teach it in the same way that you teach "practical farming"?—Yes.

18194. Do you get them to learn anything off by heart?—No, never, but to understand the book thoroughly and to refer to matters in the locality around.

18195. And you think agriculture, as so taught, was more valuable to those boys than agriculture as taught under our system?—I think so, they understand the subject under the Science and Art Department better than they do under the Board.

18196. Mr. SMITH.—But they are older children?—They must be older lately, because there was a rule that they could not be examined until they had passed second-sixth, but long ago I could put in first or second-sixth.

18197. But you are comparing them with fourth class children who are taught agriculture under the Board?—No, I am not.

18198. Rev. Dr. WILSON.—What steps did you take to have your pupils connected with the Science and Art Department?—I first heard I should get a certificate, and I got the certificate, and then I got a clergyman to write to the Department, asking that the school should be taken into connection, and it was, and then I went in for other certificates, until I got seven.

18199. Mr. REDMOND.—Would Lawrence's book be too difficult for the fourth class?—It is not too difficult, but it is too extensive; I never read any book on agriculture so well written for young pupils.

18200. Gave lectures to what class of pupils?—Not only to the boys and girls, but also to the senior classes of these Model schools.

18201. And he instructed also any member of the teaching staff?—He did; they afterwards were present at his lectures, and teachers from surrounding districts came in too on Saturdays.

18202. Any instruction on other days of the week?—Oh, yes, every day after three o'clock.

18203. How long did it continue?—An hour.

18204. Professor FROST.—How many weeks in each course?—About six weeks of a particular Model school, for instance, he did Coleraine and Ballymoney at one time, living in Coleraine and coming to Ballymoney.

18205. Mr. MOLLOY.—When he left the Model school, was the instruction carried on by any of the staff?—He educated the assistants, I was one, there were three or four others, Mr. Morris and Mr. Eardley, who is now Head Inspector of schools, were amongst the first.

18206. You remained behind, did you, to carry on the instruction?—Yes.

18207. Would you kindly mention the particular branches of physical science that were taken up?—We were supposed to go through most of the branches in six months, giving a lecture every day. We con-

merent with practical mechanics—mechanics as illustrated by Johnston's diagrams.

18196. With apparatus before you?—With apparatus; hydrostatics, and pneumatic, magnetism, heat, electricity, the steam engine.

18197. Professor FRITHWOLD.—Sound?—Yes, light and sound.

18198. Mr. MOLLAY.—Were these found in any way to interfere with the ordinary subjects of the school?—No, they were given after school hours.

18199. And continued for how long?—For an hour.

18200. Did the pupils, according to your experience, willingly attend for that extra time?—They did, and parents of the pupils came too; the experiments were very elaborate; we had splendid apparatus, both private apparatus belonging to Dr. Clarke, and those purchased by the Board.

18201. He, in the sense of being an itinerant lecturer, and you, as his assistant, in that capacity, brought about some of the apparatus?—We always did.

18202. And a portion of it remained behind in the particular school for some time?—It was used in the school; but then the Board supplied each school where it had introduced the subject with a set of apparatus.

18203. What was the value of that set?—About £50 or £60. I know what they were, for I selected them.

18204. As much as that for each school?—Yes, they were very expensive.

18205. I thought about £10 to £15 was the usual amount?—More than that.

18206. And did you find as much as £60 worth of apparatus in these subjects absolutely necessary to carry on the instruction?—Well, indeed, I am sure the apparatus would cost £60.

18207. Professor FRITHWOLD.—In the elaborate kind of experiments you used to do?—Yes, they were very expensive, and they were continually breaking, electrical machines, air pumps, wooden models and diagrams, were very dear—each diagram was 10s. 6d.

18208. Mr. MOLLAY.—According to the different parts of the country that Dr. Clarke was engaged in, and you were engaged in also as his assistant, did you not, both of you, accommodate your instruction to the requirements of the district?—Yes.

18209. Develop that a little—for instance, in the North of Ireland?—He taught bleaching and made experiments in it. In the West Dublin Model School, we were there for a long time, he taught—

18210. Professor FRITHWOLD.—Distilling?—Yes, certainly, you are quite right.

18211. Mr. MOLLAY.—I believe at that time there was a good deal of silk manufactured in the Liberties of Dublin?—There was.

18212. And the West Dublin School is situated in the Liberties?—Yes, they were taught dyeing there, and processes connected with the manufacture of silk.

18213. Those lectures, also, were illustrated?—With capital diagrams, hand-made, many of them; I made several myself.

18214. Did the pupils take any part in making them?—Some did.

18215. Professor FRITHWOLD.—Did they help in the experiments?—Well, sometimes they did.

18216. Did they smell chlorine and say what it was?—Oh, yes, they knew chlorine.

18217. Mr. MOLLAY.—At the Inshore Model School—that is a railway school?—He lectured there on heat and the steam engine, and the men employed at the works there were most attentive.

18218. As well as the ordinary pupils of the school?—And there were evening lectures to the working men.

18219. I presume the children attending were the children of the workers?—Yes, the children got their instruction in the day time, but these were night lectures.

18220. Why was that system of lectures not continued?—I think it was the results system that knocked it out; there was not time for it.

18221. The introduction of the results system interfered with the previous arrangements with regard to these itinerant lectures?—Yes, it would take a man an hour to prepare experiments in the majority of cases; then there was no time under the results system for preparing. Supposing a man wanted to lecture on chemistry, and wanted to make oxygen, it is a thing that does not keep, and he could not do it when he had to teach up to three o'clock and give his lecture afterwards.

18222. Would you be in favour of a return to that system of itinerant lectures?—I would, indeed; it did a great deal of good and was very interesting.

18223. Would it need a serious modification of the results programme?—I imagine it would.

18224. Have you any observations to offer on the subject of individual examination of pupils, or would you give a preference to class examination?—Oh, no, I would not make any observations at all about the results system.

18225. How do you find it working in your own school?—There is too much pressure altogether on the boys.

18226. What is the average attendance at your school at present?—About sixty-eight.

18227. How many were presented at the last results examination?—Very nearly that, between sixty and sixty-eight.

18228. Then your attendance must be very regular?—It is pretty regular; sometimes it fluctuates unaccountably.

18229. Captain SHAW.—How long were those courses of instruction carried on?—For about four or five weeks at a time, until generally they had to terminate, because Dr. Clarke had to go up to the training department to lecture there, and the teachers he left behind carried it on throughout the year.

18230. The subjects lectured on appear to be rather technical?—Yes.

18231. Do you think that is suitable instruction for young children?—It was theoretical as well as technical, but to a very large extent it was technical. Now, take mechanics, it was decidedly technical, because I don't believe in young children learning trigonometrical formulae in connection with mechanics.

18232. Would it not be more useful for children to learn elementary chemistry; it would be more within their comprehension than at once going into such a difficult subject as distilling, to understand the theory of it?—It would be suitable, but I don't know why you bring distilling in; it was just mentioned by this gentleman here.

18233. But you have been teaching a subject that necessitates a knowledge of chemistry?—It does.

18234. Would it not be better for children to learn elementary chemistry at the beginning?—I dare say it would.

18235. Do you approve of interesting teachers in schools; would you like a teacher to come to your school and give lectures in a specific subject?—Not when I am qualified myself.

18236. Do you think the teachers would be qualified to give any instruction which the children would receive profitably?

18237. Professor FRITHWOLD.—Cannot teachers learn anything that a child of twelve years old can learn?—Certainly.

18238. Captain SHAW.—You think any teacher might qualify himself to teach in his own school?—He might.

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Col. L
Mr. James
Foskett

FORTY-FIRST PUBLIC SITTING.—SATURDAY, OCTOBER 9th, 1897,

AT 12 O'CLOCK, NOON,

At the Imperial Hotel, Sligo.

Present:—THE RIGHT HON. THE EARL OF BELMONT, G.C.M.G., in the Chair; THE RIGHT HON. C. T. REDINGTON, M.A.; THE RIGHT REV. MONSIGNOR MOLLAY, D.D., D.S.C.; REV. HENRY EVANS, B.A.; REV. HAMILTON WILSON, D.D.; PROFESSOR G. F. FITZGERALD, F.R.C.S., STANLEY HARRINGTON, Esq., B.A.; W. R. J. MOLLAY, Esq.; CAPTAIN T. B. SHAW, and J. STEUTHERS, Esq., B.A.;

with J. D. DALY, Esq., M.A., Secretary.

Mr. M. DOYLE, Teacher, National School, Ballymote, examined.

Mr. M. Doyle.

18239. CHAIRMAN.—You are the teacher of the Ballymote Male National School?—Yes, my lord.

18240. You wish to make some remarks, I believe, with regard to any proposed changes which would introduce manual and practical instruction to a further extent than they are already in the National schools?—Yes, I sent forward a statement on that.

18241. Will you in your own words give us the substance of what you think on this subject?—Well, my lord, I would prefer to follow very much after the lines I put forward. First, coming to practical instruction in National schools, I am of the opinion, personally, and a pretty large number of the teachers with whom I am acquainted, with whom I have exchanged opinions on this subject, are also of opinion that under present circumstances, there cannot be much of a change grafted on the present National system of education. We believe that the present amount of literary instruction is the least that the children in this country may be expected to know, and if there be any change made we believe that there ought to be corresponding changes to bring in the children more regularly to our schools and to lengthen the school hours. I have not been authorised generally to make this statement, but from conversation with the teachers, with a very large number of them, in the province, I believe that if the Commissioners of Education introduce this manual instruction to any wide extent, to any larger extent, that there must be adequate provision made by bringing in the children to school on a larger number of days, and also by extending the school hours.

18242. How much would you extend the school hours?—I would extend the school hours at least to the extent of three hours a week. Manual instruction of any kind to be introduced will take at least a half hour each day.

18243. You don't suppose that it would be given every day, do you?—Well, no, I would prefer a longer time than half-an-hour on three days of the week, but in the event of compulsory attendance being established, such as that we could bring in the children on Saturday, I would prefer to have two hours on Saturday, and then smaller portions of time throughout two or three of the other days of the week.

18244. Will you explain under what head you would group manual instruction?—Well, the manual instruction with which I am concerned and teachers through the country, would be with gardening and farming, as the most appropriate connected with rural schools, and under the head of rural schools, I class these small town schools that exist in this province, where there are no industrial occupations carried out, except merely agricultural operations.

18245. With regard to agricultural operations, are you in favour of school plots?—Yes.

18246. If you had school plots would you think it would be better to confine the instruction to an hour

on two days of the week, or have a shorter instruction over more days in the week?—With respect to the shorter instruction, the fact of it is that here in the West of Ireland, and in several other parts of Ireland, I believe weather and climate have a great deal to do with it. For instance, I probably will be the victim myself this year of climate influences, because I hold a school garden, and I had appointed a certain time during the day for giving the practical instruction in the school garden; well, when that hour would come round it was utterly impossible to take the children to the garden, it poured rain day after day, in fact there were over 120 days rain since the middle of September last year. Therefore, under those conditions, it would be quite impossible for the teachers to take the children to the garden, because in the first place it would be quite injurious to their health, and in the second place the parents would completely object to have their children taken at all to the garden during wet or stormy weather. The Commissioners' rules say you must take them at least half-an-hour a day or three hours on Saturday. Practically, that would be an utter impossibility, if that is carried out to the very last point, the school gardens of Ireland could not under any conditions be carried out.

18247. Is there any other subject you would like to speak of?—Well, I would like to say something on the results system. I would go so far as to say that I don't join in the very general condemnation of the results system. Easy that if there would be some change giving us better hours and larger number of days for attending to literary instruction a very large number of the teachers of Ireland would be quite able to carry out to a very satisfactory extent the results system, with some slight modification of the present programme.

18248. Mr. BARNES.—What modification of the programme would you suggest?—For instance, on the question of reading I hold that the present course of reading is entirely too extensive, considering the very irregular attendance of the children, and that we have very seldom at any period of the year a large proportion of the attendance present, we get portion of them struggling in at one month of the year and another portion at another month. We have never a very large portion of them at school together, the same as they have in colleges and Intermediate schools. On this point I may say I took a few notes particularly connected with this western province, and I found in the last published Appendix of the Commissioners of Education that out of 1,496 schools in the Province of Connaught there are 1,039 of them, or within a decimal point of 70 per cent of them, having only one teacher. I contend that having 70 per cent of our schools with only one teacher, who has got nine or ten classes to attend at present, that it is utterly impossible to come to that perfection that inspectors expect of us in reading. We would wish to narrow down the subject to a

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Mr. M. Dyer.

shorter number of pages and to have a simpler set of rules as are in our schools than the present one, and also we wish that with respect to the examination by inspectors that there would be more time given to the children, and also with respect to reading that there should be a difference made between a No. 1 and a No. 2 pass.

CHAIRMAN.—I think you are going into something rather outside our inquiry.

18249 Mr. RENNERT.—Under what other head would you wish the programme to be modified?—A shorter number of pages in the reading lessons.

CHAIRMAN.—We are not inquiring into that subject at all.

18250 Mr. RENNERT.—What else do you wish to have done?—We would wish also that there would be a distinction made between a No. 1 and a No. 2 pass.

18251 Is there not a distinction now?—There is no distinction. With respect to payment we say a No. 1 pass ought to carry a higher payment.

18252 Could it not be said that a No. 2 pass ought to carry a lower payment?—It might.

18253 Are you aware that in England they insist on two or three readers in every class?—I am aware of that, but you also have compulsory attendance in England.

18254 What other part of the programme do you wish to have modified?—The present standard of literary attainments I hold should be maintained, except that perhaps there might be some modification made in grammar and geography—for instance not to introduce grammar until the pupil would reach fourth class, and then grammar and geography might be taken up in alternate courses. But personally I and all the teachers I know, would not be desirous at all of leaving out either of those subjects, we say that it is impossible to teach composition or letter writing to any general or satisfactory extent without a knowledge of grammar.

18255 Are you satisfied with the way in which grammar is taught at present?—Well, I say that there is a little too much expected of the children in the various classes.

18256 Do you teach drawing in your school?—No, sir.

18257 Rev. Dr. EVANS.—Have you a certificate for drawing?—No, sir, I was put into the drawing class in Marlborough-street about three thirty years, and we were asked, about 150 or 160 of us, to draw a circle. I made a very excellent attempt at a circle myself, by using my thumb as a centre and sweeping the pencil round, with the result that Mr. Smith, the drawing master, turned me, along with a number of others out of the drawing-room, and that was my first and last attempt.

18258 Mr. RENNERT.—Do you think that drawing ought to be introduced into all schools?—I believe it would do no harm to introduce it, if the teachers were taught how to draw and how to teach drawing.

18259 Would you be in favour of the establishment of centres in various localities where courses of lessons in drawing could be given to teachers?—I would be for that, but I would prefer they would be taken to a central place.

18260 For how long?—I don't think any course would be of any practical advantage for a less period than three months of the year, but I would prefer drawing to be taught in the training colleges when the Queen's Scholars enter them, and it should be made compulsory on the Queen's Scholars, and on all young teachers going up for one year's course.

18261 You are aware that it is so now?—I was not officially aware of it.

18262 As regards teachers already in charge of schools how would you teach them drawing?—I think there are very many teachers too old to make any attempt at all for any teacher having over twenty-five

years' service it should not be made compulsory, it should be optional.

18263 Do you teach any science subjects in your school?—I did some years ago, when science teaching was much more profitable than at present.

18264 How was it more profitable than now?—Well, we got in pupils under easier circumstances and there is a distinction made now by the Science and Art Department in the payments.

18265 Did you ever teach any science subjects under the Board of National Education?—Yes, I taught algebra, geometry, and physical geography.

18266 Any other?—That is all.

18267 You did not teach mechanics or anything of that kind?—No, sir.

18268 Why did you select the Science and Art system rather than ours?—They pay considerably more satisfactorily than the National Board do.

18269 And you have stopped it now because the pay has become less?—No, but because the conditions were made heavier for the admission of pupils. For instance, the principles of agriculture was a very general subject for Irish teachers, but they imposed conditions under which we could not have sufficient material to teach a class.

18270 How did you teach the principles of agriculture for the Science and Art examinations?—Out of books.

18271 What books?—I used Dr. Tanner's and Wrightson's.

18272 Did you show the pupils the different plants, and give them any practical demonstrations?—Well, no, not at that time; since then I got a cottage garden.

18273 Mr. STURGES.—What are the conditions that prevent you going on with the Science and Art classes now?—They don't admit any pupil until he is out of the second stage of arithmetic to be eligible, and a very large number of those children drop away from our schools before they reach that class.

18274 Mr. RENNERT.—Do you think that classes for handicraft and elementary sciences might be held after school hours in towns and streets?—I believe so.

18275 Do you think any of the teachers of the surrounding schools would cease in the evening to attend?—I believe they would, they are so very anxious to do anything that would be for the real benefit of the education of the boys that the teachers would not hesitate.

18276 Do you teach a mixed school?—A boys' school.

18277 Have you any observation to make about the education of girls?—I know very little, except that the industrial programme is generally recognised as a failure.

18278 Why is it a failure?—The time occupied by it was too much in the opinion of the parents of the children, a very large number of them that I was acquainted with said that it was for learning the ordinary school branches they sent them to school, not to sit down in the school and gossip through two hours.

18279 Why should they gossip and not work?—The time is too long, and the teacher has to occupy herself with other classes in the school very often during this period.

18280 Would you like to see the number of classes in small rural schools reduced?—I would like to see the fifth reduced to one standard and the sixth to one standard.

18281 You think it hard for a single teacher to teach so many different classes?—Yes, and I would like those who wish for a further course should have some opportunity of encouragement given them in the evening or continuation schools.

18282 Where should these be held?—In the present schools.

18283 How could pupils in a rural district come in the evening to school?—The schools are so numerous in many parts of the country that the larger portion of

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the school material is within a mile or a mile and a-half distance.

18284. Even in the rural districts?—Yes, the schools are very close to one another—that is one of the grievances of the teachers that the schools are so multiplied that they can only have one teacher in the school.

18285. Is it not a convenience to the pupils?—It is a convenience, but a school cannot be brought to the street of every pupil; if there were larger areas there would be better schools.

18286. Would it not be much more tedious for pupils to have to walk three miles instead of one and a-half?—In some places it would be, in mountain districts, but in other places it would not be so.

18287. Professor FITZGERALD.—Would not the attendance be more irregular?—I suppose it would be.

18288. Rev. Dr. EVANS.—What is the number on the roll of your school?—110.

18289. What is your average attendance?—Something like sixty-nine—in point of fact the assistant teacher has had to go round and canvass for the attendance of the children every alternate quarter, in order to come in for his salary, and that is rather a humiliating thing for him.

18290. Would compulsory attendance help you there?—I believe compulsory attendance would be very beneficial.

18291. Has the assistant a certificate for teaching drawing?—No; but he is young enough to go in for it, he is a young teacher, two or three years out of St. Patrick's Training College.

18292. Supposing you were allowed to teach drawing, and that results fees were paid to you for teaching drawing, without holding a certificate, do you think you could do it?—I am quite certain I would not do it, or attempt it at my age. I don't say what I might have attempted fifteen years ago if this was mentioned.

18293. My object in asking you the question is to see if you could suggest to us how the older teachers might be made use of for teaching drawing?—The older of the young teachers might, but I draw the distinction that for anybody having twenty-five years' service, that is any teacher over forty-five years of age, it should not be made compulsory, unless they desired it themselves or have an inclination for it.

18294. You are of opinion that the time allotted to the literary subjects is the least in which you could efficiently teach these subjects?—Yes, that is my emphatic opinion.

18295. In so saying, are you speaking your own opinion or the opinions of your brother teachers?—I am speaking my own opinion first, but I am also speaking the opinion of a very large number of teachers with whom I discussed the question.

18296. Suppose that manual instruction were to be introduced, how would you suggest that we should find time for it, without curtailing the time for these other subjects?—I could not possibly give any time out of the present, except by compulsory attendance.

18297. Could it be done on Saturday?—There is a great disinclination on the part of pupils to attend upon Saturdays.

18298. You have a school garden?—I have.

18299. Do you parcel out the ground of the school garden into plots and allow each boy a plot of his own to cultivate and to keep?—No, sir.

18300. Would you think that a good plan?—I would think it, but as a general rule school gardens are too small for carrying out an experiment of that kind, but what would be very desirable would be if the boys connected with the school garden could manage a little plot at home, that would be in my opinion highly beneficial.

18301. Do you employ them to make any collection of flowers or grasses?—Well, no, but I get the seeds of the various grasses from Mr. McKenna, of Dublin, and I sow them in little plots, and they can compare those grasses with the grasses in the fields.

18302. Do you grow any flowers?—I do, but not very much.

18303. Any vegetables?—I grow vegetables, it is chiefly for vegetables I use the garden.

18304. Have you any experimental portion of it for working out original ideas of your own to stimulate those boys?—I have not, I have only had it three or four years.

18305. Professor FITZGERALD.—Do you know whether the children have ever made use of, in their own homes, the knowledge they acquired in the school garden, has it produced any effect there?—I believe it has. I believe it is an impossibility in after years, when a boy gets a fair course, even though it is a book course, that it is an utter impossibility for that boy, if he has any intelligence, but he will apply some of the knowledge he gained in the books to operations on his farm. I am, my lord, in possession of sufficient experience to show that that is so.

18306. Supposing the agricultural training was changed to a certain extent to make it more practical and encourage the collections of plants and experiments in the growth of plants, do you think teachers would be willing to undertake that work rather than book-work?—I think the teachers would be anxious the two works would go on side by side, the book work and this practical work.

18307. But the book work would have to be simplified?—Yes, not only simplified but a smaller amount of it given. The amount of agricultural work in the new books we have got on the list lately is something that no teacher can accomplish, it is a pretty extended course in itself.

18308. You don't think there would be any difficulty in getting teachers to undertake the encouragement of making collections and so forth?—I don't think the teachers as far as I know then will object to undertake anything that they can reasonably undertake.

18309. I am sure they would not, but what I want to know is, do you think the teachers would consider that that sort of work was of value to their pupils?—I am sure they would. But I think that the actual growing of vegetables in a garden, and an endeavor to get the parents of the children, or the boys themselves, to carry out this work at home, I think that that would be more beneficial than collections of these flowers and grasses in the schoolhouses.

18310. I don't want the schoolhouses to have the collections, I want the children to make the collections, each for himself, to encourage them to observe the plants growing round in their own neighborhood, and learn the difference between them, to train them in observation?—That would imply that the teachers themselves must be somewhat grounded, perhaps more than they are, in the elementary knowledge of botany and of plants. We have to begin to learn these things ourselves.

18311. Do you think the teachers would consider that of any value for their pupils?—Well, I think they would, I am certain that very many of them would.

18312. Now, in teaching drawing there are a certain number of these that are teaching freehand, do they think it would be of value to teach drawing to scale?—Well, I think a very large number of the teachers would try it, if measurement was put on the programme as an additional subject, I think associated with the subject of mensuration that drawing to scale and practical geometry were feasible.

18313. Because that is a kind of thing that would not require a person to learn very much dexterity, an older teacher might be able to learn to teach that?—I am of opinion that that would be rather a popular subject with very many teachers.

18314. Supposing a teacher succeeded in teaching drawing successfully and got results fees, would you allow him to teach it without requiring him to have a certificate?—As far as I am concerned, I would

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allow no teacher without a diploma or certificate from some source to teach a subject like drawing.

18315. Even although you found he actually succeeded in doing that, would not that be the best diploma or certificate?—I have no experience on that subject, because I never knew a teacher, or saw a school in which that was done.

18316. Do you not think there would be some teachers who would be quite competent to teach drawing, but who nevertheless would object to going in for an examination to obtain a certificate, they would be quite willing to teach drawing to their pupils and have the pupils examined?—I believe there are some teachers who might succeed in teaching drawing, but I don't understand why they should object to go in for a series of lectures to perfect themselves and gain a certificate.

18317. That is not the way in which certificates are granted now?—What I stated with respect to drawing is that I would like it to begin with the young teachers, and from the training college.

18318. Rev. Dr. EVANS.—Would you like the Commissioners of National Education to regulate in a school like yours that the assistant teacher should hold a certificate in drawing?—I would be very much for that.

18319. Mr. SMITH.—I did not catch what the size of your school was?—It is about seventy for an assistant.

18320. Have you an assistant?—Yes.

18321. There are many schools, I think you said, in which the teacher has seventy, and has to teach them alone?—Well, under seventy; the line is drawn at seventy.

18322. In those schools how many classes might there be, six or seven?—Oh, yes, in all schools with which I am acquainted there are the same number of classes.

18323. But there may be some schools in which there are no pupils in sixth class?—Very few schools but there are two or three pupils in sixth class, no matter how small.

18324. Then it comes to this, that there may be schools in which one teacher has to teach sixty pupils in six or seven classes?—Nine or ten classes.

18325. Some of those classes must be very small?—Not necessarily; of course the classes are smaller as they advance.

18326. Would it not be a great saving of time if some of those classes could be grouped together, two or three taken together in certain subjects—geography for instance?—Yes, third and fourth might be grouped in geography, and fourth and junior fifth might be grouped in grammar.

18327. And would it do any harm to have pupils of fifth class reading the fourth reader over again, or a reader of similar difficulty?—Well, I think it would not do them very much harm, but they would require fresh material in order to have progress made in reading.

18328. Another book, not more difficult than the fourth, but popular?—Perhaps a little more extended.

18329. What I am aiming at is that you might teach fourth and fifth together in reading by means of the books, neither of which would be more difficult than the present fourth?—That might be.

18330. You are aware that in both England and Scotland this grouping of classes in rural schools is allowed and encouraged?—I have no experience on the point.

18331. And that the fourth standard may read the same book as the third standard, only they must read three books in the course of the year of that degree of difficulty; suppose you had that system here that would save considerable time, would it not, if you could take two classes together for a certain number of subjects?—Yes, it would save some time.

18332. Without any harm to the teaching?—At every step with respect to the Irish schools you are

confronted with the irregularity of the attendance, and there is the difficulty the teachers have to deal with, it is so different from England and Scotland, that at every period of the year and every step they are confronted with irregularity of attendance.

18333. What are the main objections to compulsion being introduced?—Well, I don't know of any. With respect to the managers around this part of the country I never knew an objection, because at many public meetings that were held some of the highest ecclesiastics and priests of this part of the country attended and took the chair of public meetings at which a resolution in favour of compulsory attendance was afterwards carried.

18334. CHAIRMAN.—Is the objection on the part of the parents?—I never knew it to be.

18335. Professor FRANKLIN.—Are the parents now very apathetic?—Well, the parents are apathetic, there are certain seasons of the year when it is necessary to keep the children at home for employment, but as a rule they have not shown any very serious objections to a reasonable measure of compulsory attendance.

18336. Mr. SMITH.—Whatever the difficulties may be, in your opinion, compulsion is a preliminary to any serious improvement in the condition of Irish primary schools?—I hold that very strongly.

18337. If you had that and also some grouping of classes in rural schools you could find time for a more extended programme?—Not for a more extended literary programme.

18338. No, I don't mean that, but a programme embracing more subjects?—I believe time could be made for it.

18339. You made an important statement that the great majority of children in this district live, let us say, within a couple of miles of the school?—Yes.

18340. So that there would be no real difficulty in the way of the older children attending an evening school?—Not, with respect to a very large number of pupils, because as a matter of fact whenever science classes have been established there was not the slightest difficulty.

18341. I understand evening schools are very few in Ireland?—Very few, there is practically no encouragement given to them, because they only pay £1 a month salary.

18342. That is the real reason why there are not evening schools?—It is not, perhaps, the real reason, but it is a very powerful reason.

18343. Can you tell me any other reason?—I think the parents get very fair scope for teaching their children in the ordinary subjects during the day school, that is if you limit the number of classes, my statement is that there ought to be encouragement given to evening or continuation schools for those who would be anxious to go on.

18344. You gave one reason for evening schools not being general in Ireland, you said there were others, I want to know what they are?—My first reason is that there is not sufficient encouragement given to the teachers to take them up; the second reason is that there appears to be no great necessity for it until such time as your manual and practical instruction is graded on the present system.

18345. But I thought you said that when the Science and Art Department paid for passes in the elementary stage there was no difficulty in getting pupils to attend evening schools?—So far as pupils that were eligible by their classification I never knew any difficulty. But of course the science classes in this part of the country were not very numerous and were mostly established in small towns, but where they were established the teacher that was examined before you yesterday could testify that he never experienced any difficulty whatever in getting in pupils.

18346. If there was sufficient inducement to teachers to take up evening continuation classes you think they would be most valuable things?—I believe they would be valuable for those children who would

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be anxious, in order to qualify themselves for examination, to go a little further than sixth class.

18367. And that they would be specially suitable for teaching book-keeping, shorthand, cookery, laundry-work, and subjects of a practical character?—I have not any opinion formed on cookery, because I believe to a very large portion of the rural districts in this province that cookery is not of very great value at all to be taught in country schools. In towns there might be classes established for it, but in country schools I don't believe the girls would come out in the evenings to attend cookery classes.

18368. You think they have such a practical knowledge of cookery already?—Well, no; I don't mean that. I am speaking principally of boys. It is a great deal easier—

18369. You don't propose to teach cookery to boys?—No; but with respect to evening instruction classes, I make a reference to boys particularly. It is not so convenient for girls to turn out in the evening to attend classes as it is for boys.

18370. Take such subjects as shorthand?—I believe they would attend for such a subject as that, but there are very few teachers qualified to teach shorthand in this part of the country.

18371. Book-keeping?—Yes.

18372. Shorthand is a thing the teacher could learn if he found it useful for his pupils?—I suppose young teachers might venture upon it. I don't think, for instance, I would venture to take up such a subject as it at my period of life.

18373. My point is, that it is better to teach subjects such as these in an evening school rather than to put them on to the day school programme?—Yes.

18374. If you have such a wet climate here as you have stated you have your school garden cannot be of very much use?—Well, such as it is, we must try and make the best of it, just the same as all the farmers of the country. We cannot migrate to a more favourable climate.

18375. No; but do you think it is worth spending a great sum of money on school gardens all over Ireland if they cannot be turned to some practical account?—I believe there should be a reasonable expenditure in encouraging school gardens, but the drift of my remarks is that there should be more latitude allowed to the teachers with respect to the time at which they would take the children to the school garden.

18376. CHAIRMAN.—That is, they would take them when it was fine?—Exactly; and when the cultivation was going on, and when the crops would have to be sowed; but I don't see why, when the land is locked up with frost and snow, we must, according to the Commissioners' rules, take these children out to the school garden for half-an-hour a day.

18377. Mr. STURTEVANT.—My point is that the school garden must be made the first consideration, and other subjects come second. You say you must take them out at the most suitable time, whenever you think proper?—Yes, the time must be specified on the time-table, otherwise when the inspector comes round the teacher can be fined or reprimanded. I say that in case the weather should not be favourable, at some other time he should be at liberty to take them into the garden.

18378. That is to say you would have a fixed time on the time-table, but if the weather was wet the teacher might take the children at another time?—Yes, at some other time in the week, when the actual cultivation was going on.

18379. You would make it compulsory on the younger teachers to teach drawing?—I would be glad to see it in force, but I don't like compulsion—except for bringing in the children—in any shape or form.

18380. MEMORABLE MEMBER.—You desire compulsion for the children, but not for the masters?—Compulsion for the children for what is beneficial to them in after life.

18361. And why not compulsion for the masters for what is beneficial for the children?—The masters will naturally carry out what will be beneficial for their schools and districts.

18362. PROFESSOR FITZGERALD.—Are there no lay masters?—There might be, but they are certainly the exceptions to the rule.

18363. Mr. STURTEVANT.—You prefer to encourage drawing rather than to make it compulsory, to make it worth the while of the teachers to teach it?—If the Commissioners made it compulsory in large towns the thing might gradually and naturally extend to country districts in the course of time.

18364. You would say the same about manual work—that it might be tried in more populous centres first?—Yes; and also, where it may be convenient in small towns, such as exist in this county, they may experiment on grouping four or five small towns together, but to extend a general system of manual work into all the schools of the country, is a thing, in my opinion, that cannot be realised.

18365. Have you seen a proposal by anybody to extend manual work to all the schools of the country?—No, but it is somewhat in the air.

18366. You have seen no definite proposal—nothing more than that it was in the air?—In newspaper reports, and a general rumour that very wide changes are about to be adopted.

18367. CAPTAIN SHAW.—What do you understand by manual training?—Well, by manual training I mean the work of the pupils in schools in the use of homely articles of carpentry. With respect to rural schools I would count digging in the garden, attending flowers, pruning, any agricultural operations of that kind I would consider manual training. With respect to industrial work, sewing, and cutting out—all this I consider manual labour.

18368. You call it manual labour now?—Manual work or manual labour.

18369. Would you call paper-folding and cardboard cutting so?—Yes, I would.

18370. Do you know what the object of manual training is?—The object, as far as I understand, is to educate the pupils of the country, to make them more dexterous in the handling of tools, and in those various homely occupations that they may be called upon to perform.

18371. It is with a view to training them as craftsmen?—I believe any movement of that kind would be very unpopular in the country, because the tradesmen of the country would very largely resist it.

18372. CHAIRMAN.—That is not answering Captain Shaw's question. Do you believe that that is the object of this inquiry?—Oh, no; from the statement made by His Grace the Archbishop of Dublin to the Lord Lieutenant I fully understand the object of the Commission.

18373. CAPTAIN SHAW.—You started by saying, I think, that the literary programme could not be reduced without doing harm to the education of the pupils, you were inclined to modify that rather afterwards, I think, in several respects?—Well, I am aware that I would modify it very much.

18374. You said that the reading was rather difficult, and it was not necessary to bring it to such a high standard?—Well, I made a statement that I would wish to see the number of classes reduced in a school.

18375. Do you think it would be any serious detriment to the general education of a boy if he had not to do the sixth book, but could read ordinary newspaper literature and understand what he read, do you think it is necessary he should understand classical English of the old date?—I believe the language of newspapers and editorial articles is much more difficult than a good deal of our lesson books. I would like a less extended reader than the sixth book, and one, perhaps, in simpler and more popular language, some of the lessons given—

18376. Professor FITZGERALD.—From Looko!—From Looko, and also from Cardinal Newman, and also some of these lessons on physical science, I think they might be left out of ordinary popular reading books, they are rather heavy for the ordinary student attending National schools.

18377. Do you think the arithmetic you teach is necessary for all the students, did you ever find any person who applied the cube root practically?—Well, yes, some of these pupils that are turned out for masters and teachers require to know the cube root and also it is necessary at the examinations for promotion in the Constabulary.

18378. Do they want it practically in after-life, when it is taught does anybody use it?—I am not aware of any industrial occupation in which they actually extract the cube root as a preliminary to it.

Monseigneur MONTELL.—The use of learning the cube root, I suppose, is to teach it to others.

18379. Captain SHAW.—You also teach book-keeping, do you believe it is necessary for every boy's education?—I don't believe it is necessary for every boy's education, but it is a very popular subject.

18380. Do you think it is ever used afterwards?—I think it is, and I think it is a very necessary subject even for a farmer.

18381. Do you think merchants, as a rule, adopt the system of book-keeping which is taught in the National schools?—I think merchants adopt the system much more extensively at present than they used formerly, because there was a useless little work formerly on the Board's list that we were compelled to teach, but there is quite a different system of book-keeping introduced into schools, by which they must do practical exercises, and, I believe, anybody doing that would be quite competent to do anything that is necessary in a merchant's office.

18382. Do you think a merchant would take a boy into his office without training him into his own particular system?—All merchants may not have the same system, but the boy that is taught book-keeping in the school must certainly will be able to turn his knowledge to master the details of the merchant's books much quicker than a boy who has not been taught the subject.

18383. Mr. HARRINGTON.—How is the agricultural text-book taught in your school?—Generally speaking, it is taught as a second lesson, and then there is a set time devoted to it on the time-table, the subject is read by the pupils, and then they are examined and questioned on it.

18384. But are the subjects that are read by the pupils explained fully and amply by the master?—They are explained as fully and as amply as the time will permit.

18385. Would you be in favour of seeing a simpler book introduced?—I would be in favour of a book with a smaller number of pages and a more practical turn given to it, for instance, in the cultivation of the various crops sufficient details are not given in the book that is on our list for the information of the pupils.

18386. I think you said that in your school garden you grow vegetables principally?—Yes.

18387. Would you name the vegetables that you grow in your garden?—Well, cabbages, potatoes, rutabaga, cauliflower, broad, ordinary beans, peas I did not find French beans so profitable at all as is given down in the little text-book.

18388. Do you mean profitable educationally?—Educationally or for the advantage of the vegetable garden, for utility in the house. Then with respect to fruits, I have gooseberries, currants, apple trees, strawberries.

18389. Do you explain to your pupils the various characteristics of these different vegetables and fruit trees?—Oh, yes, when these are planted the children are brought there, the mode of cultivation is explained, they assist themselves in the thinning and weeding, and several other of the operations, but with respect to the more difficult matters, they certainly are not;

for instance, they are not asked to prune any of the gooseberry or current trees, or to interfere with the branches of the apple tree.

18390. Or with the fruit?—We try to manage to keep them out of the fruit garden as much as possible in certain seasons of the year.

18391. How do you get these plants and vegetables supplied?—I generally get the seeds myself, sometimes from slips, but as a general rule I deal with Mr. McKENZIE, of Dublin, I found his seeds were pure and of the proper variety.

18392. Do you use any artificial measures in the growing of these plants?—Very little artificial manures. I use stable manure generally, and sometimes I mix it with common soot, which is the best artificial manure I ever came across, I sometimes mix a little guano.

18393. Mr. MONTELL.—You mentioned that there were about seventy per cent. of schools under one teacher, that is spread over what area?—The Province of Connaught.

18394. Is it not a fact, however, that the single teacher is helped by a monitor in a great many of these cases, and perhaps the large majority?—Well, I am not aware of it; so far as my knowledge goes, the schools in which there are assistant teachers have very often the services of monitors.

18395. But assuming there is no assistant teacher, may there not be a monitor?—There may be.

18396. Would you not say in the great majority of these schools?—Well, within my experience I would not say that it is the great majority, or a majority at all.

18397. Well, in such schools as these in which monitors are employed, the monitor might be pretty advanced in his course, he might be in his fourth year, up to eighteen years of age, sufficiently qualified to give efficient help to the master—that is the principle of the monitorial system, not merely to be trained for the office of a teacher, but also to help in the instruction of the pupils?—Well, I believe that is the principle, but in practice we have not found the assistance of the monitors of such benefit.

18398. At present assuming there was no monitor in the school, and the master alone taught a small rural school, is there any difficulty about grouping classes, is there not a plan of grouping them by divisions, say, the whole senior division would write together and do arithmetic together?—Oh, yes, at map teaching that is practically done.

18399. So that the grouping by divisions may be carried out even under the present arrangement?—Yes, to a certain extent.

18400. Mr. STRUTHERS.—Do all the pupils of the higher division take the same arithmetic?—No, but you might commence with the lowest class, and when you have arrived at the limit of their programme, drop it, and continue with the others.

18401. Mr. MOLLOY.—I think you said that you would advocate the propriety of having better hours?—It is longer hours I mean.

18402. What are the usual school hours now?—From ten to half-past three.

18403. And you propose an extension?—Yes.

18404. Even in the rural schools?—Yes, I would propose an extension if possible.

18405. Are there not in this Province of Connaught a very large number of towns say like Ballymore in point of size?—Yes, there are a good number.

18406. What change, if any, in the present programme, would you advocate, for the benefit of those pupils attending town schools, as distinct from the pupils attending the ordinary rural schools?—I make no distinction between small town schools and rural schools, because practically there are no industries carried out in the majority of the small towns in this part of the country, and most of the shopkeepers in these small towns have also farms in the country, so that their children are practically more farmers than shopkeepers.

18407. Professor FITZGERALD.—Don't the children

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attend more regularly?—The children of town schools attend more regularly.

18408. Mr. MOLLOY.—Would you be in favour of the extension of knowledge of the elements of science in the town schools?—I would be for a considerable extension of that in an elementary way.

18409. Would that be carried out, do you think, properly in the evening continuation schools, or as part of the regular school course?—I think that would be better carried out in the evening schools, but I think there ought to be a little portion of time devoted to it in day schools.

18410. You complained of the irregularity of the attendance, have you any idea what is the proportion of the attendance to the number on the roll?—Oh, yes, I have. Might I take it in this way, my statement is that compulsory attendance is much more necessary in rural districts than in town districts, and for this reason, in Sligo county, the percentage is 57.5, whereas in Sligo town and its suburbs, on account of the influence exercised by the managers and by the Bishop of Sligo, and the managers of other denominations, the percentage is 85 per cent, or something like 13 per cent over it. Then I have taken seventeen or eighteen schools in Galway and its surroundings, in the county Galway the percentage is 58, for the city and suburbs it is over 60.

18411. If the same influence were brought to bear on the rural schools as on the town schools would not the rate of attendance be very much improved?—It would be an utter impossibility to exercise the same influence in large districts of the county.

18412. Teaching the subject of readers, of course you are aware that the managers are not compelled to use the Board's readers exclusively?—I believe that is a change that is coming on, but practically we were confined for the last thirty or forty years to the same set of readers.

18413. Chiefly because they were cheaper?—Well, because they were the only readers on the Board's list.

18414. There is a long established rule, that suitable books, that is, books free from objection, if submitted, might be used in the schools?—Yes, but practically we used only the Board's books.

18415. MESSRS. MOLLOY.—With regard to the school gardens, would it remove your difficulty, if the programme of the Board fixed a certain number of hours for agricultural teaching, and left it to the discretion of the master to teach from books in the school when it was wet, and to teach in the garden when it was fine?—Yes, sir, it would admirably meet the views, but the number of hours presently insisted on by the Board is rather too much for what would be quite sufficient for the knowledge of boys in a small garden.

18416. What I suggest would remove all your difficulty?—Yes, sir.

18417. I understand you are generally in favour of the introduction of manual training, but that you think there is not at present sufficient time for it?—And that the teachers are not prepared.

18418. But the coming teachers may be prepared for it in the training colleges?—Most undoubtedly.

18419. And time could be made for it, you suggest, by an extension of the school hours?—Yes, sir.

18420. Two hours, you think, might be got upon Saturday?—Yes, in case of compulsory attendance, the children will not be got to attend on Saturdays in the absence of compulsion.

18421. The first condition then would be an extension of the hours, and the second compulsory attendance of the children?—Yes, in my opinion.

18422. And you think it would facilitate the introduction of manual training, if the subject were made a good paying subject for the schoolmaster?—I don't know about grafting on anything additional.

18423. I thought you said you were in favour of introducing manual instruction if the difficulties were overcome?—Yes, its gradual introduction.

18424. Then would it not remove a difficulty if it were made a good-paying subject?—Well, I gave no thought to that.

18425. If it were not remunerative, that would be very much against it?—I believe it would be.

18426. Therefore to make it remunerative would remove a difficulty?—Yes.

18427. CHAIRMAN.—You stated in answer to the questions which were asked you that you thought that there was some advantage even now in agriculture, as it is taught. Now you have had long experience in this part of the country, thirty years, I think, you state?—I am teaching thirty years.

18428. Do you think that the style of farming in the past of the country you are familiar with has improved during those thirty years in any respect, owing to the teaching it at has been given in agriculture, either in your own or other schools in your neighbourhood?—I do believe it for this reason, when I was a young boy, about fifteen years of age, a larger district of the country than from here to Bellemeade, whole becomes, just looked like Lancashire, all one sheet of smoke burning away the most valuable portions of the soil on day land; that has been completely put an end to by the condemnation given in it in all agricultural books.

18429. You think that was the reason it was put down, not from any operation of the law?—No; the landlords had full power to prevent it at the time, but they did not. The practice was most disastrous to the soil. Then in the way of drainage, principally open drainage, you cannot go through any part of the country but there is a vast improvement, and certainly this is very largely to be attributed to the results of the teaching of agriculture. Then with respect to grain crops, I remember very well, when the general cropping in the southern parts of Mayo and the portion of Sligo adjoining it, the system was one crop of potatoes or turnips, followed by five or six crops of grain; there is nothing of the kind now, as a rule, only one grain crop follows a root crop.

18430. And is it the custom now to sow grass seed, instead of letting the grass come naturally?—Before, when the grain crop was taken off, the land used to be allowed to cover itself naturally with grass; now it is the universal custom to set grass clover.

Mr. THOMAS MACLOUGHLIN, Teacher, Lophell National School, Boyle, examined.

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18431. CHAIRMAN.—You are the teacher of the Male National School, Lophell?—Yes.

18432. And you are prepared to give us your views upon the subject of agriculture and drawing. Now, first, with regard to agriculture, what have you to say with regard to school gardens?—Personally, I am in favour of school gardens, but the people of the locality, the parents of the children, are opposed to the idea of their children doing manual work for the teacher. And, again, the manager of the school in which I teach, Father Kelly, he is manager of seven or eight National schools, and he condemns the system from

experience. He says when he was in South Roscommon, as a manager, he found that a school garden interfered with the discipline of the school. While the teacher would be employed in giving directions in the garden his monitor, if he had one, would be utterly unable to keep up discipline in the school; he often visited it during the time agriculture would be taught, and he would find the children, in the absence of the teacher, at any work but the work on the time-table.

18433. Is that your opinion?—No; that is the opinion of the manager and of the people in the locality. I would be myself in favour of school

gardens, but I have not any experience of it. I think it would be a good idea if the pupils were encouraged to do a little amateur gardening at home.

18436. How would you encourage them in that?—In this way—seeds and farm implements to be supplied to them at wholesale prices by some responsible authority, such as the managers of the district model farms, which I hope to see established in the country.

18437. There were district model farms at one time which have been discontinued?—Possibly from a financial point of view a district model farm would be a failure, but from a national point of view it would be a success.

18438. You would like to see these re-established?—I would, indeed; and endowed by public grants, in which pupils could be taught scientific agriculture.

18437. How far apart do you think model schools should be?—One in each district, under the present district inspectors—sixty-four in all Ireland.

18438. Have you any view with regard to the establishment of a college in Dublin, whose professors could devote time to investigations in connection with every subject which the Commission might recommend in the way of manual and physical training?—I would be decidedly in favour of it, because they could give the benefit of their knowledge and experience to the managers of district model farms, and they, in their turn, could exhibit it to their pupils.

18439. What do you say about drawing?—I would not be in favour of making an invidious distinction in any National school. I would be in favour of having it introduced into all schools without exception, but as the majority of teachers—I, unfortunately, among them—have not a certificate, great efficiency should not be expected for the first few years in any of these schools, and if the work was fairly done, I would say the pupils should get a pass, even though their teacher did not possess a certificate.

18440. Do you think that the Board's inspectors are the proper persons to examine in all subjects connected with manual training, rather than experts?—Yes, if a specialist was sent to examine woodwork if it was introduced into a town, and another to examine ironwork if it was a manufacturing center, and another to examine in linen in the North of Ireland, it would be a different system of education altogether, and it would not be for the benefit of Ireland we should have two systems of education.

18441. Then you think that the ordinary inspectors are the proper persons to inspect?—I do, decidedly.

18442. How would you find time to teach new subjects?—I would not follow the last witness in saying the time should be extended; the physical strain on pupils of a tender age is very great, to keep them in school from ten to three o'clock.

18443. Would it be an advantage if the junior classes were allowed to be dismissed at halfpast two?—I would say two.

Professor FERRAGHINI.—Are they not allowed already?

18444. Mr. MACLEOD.—That is the regulation at present; infants may go home?—It is in an ordinary National school? I would not like to have them go, and see an inspector driving along the road, and I am afraid the Commissioners would not stand up to defend me.

18445. Rev. Dr. EVANS.—Coming now to the school gardens your experience is that parents regard the work done by the pupils in school gardens as done for the teacher?—Yes. I merely asked the parents of the locality a few days since, and they one and all objected to the pupils doing manual work for the teacher. I then suggested what would they say to doing that work at home in their own little gardens, and they would agree to that.

18446. Would it help in any way if you divided the garden into small plots, and gave a plot to each boy, allowing nobody to do anything on that but himself, so that the parents would not think he was working for you but working for himself and for his

own education?—But we have no means of compelling that child to come and attend that plot on any day. I teach a small school. The number on the roll is sixty-five, and I am sorry to say the average has not reached thirty-five for the quarter ending the 30th of June, and has only barely touched it for the last quarter; and if there was a plot of ground in charge of a certain pupil, and he did not come to school for a whole month, what on earth is to become of that little plot?

18447. It might tend to lead the pupil to come, for I have seen a school garden in which each boy's name was on a label fixed in his plot, and it was a work of emulation among the boys that their plots should appear to the best advantage?—In a district model school I would like to see that, but if it was attached to an ordinary National school, boys are inclined to mischief, and if that garden was not properly protected things might look very awkward in the morning; but I would approve of it in a model farm, where the Government can pay a caretaker, who would be responsible for the safety of the plot.

18448. Do you believe if an arrangement were devised by which you were allowed to teach drawing?—I mean all teachers who are not in possession of certificates—and that fees were allowed, do you believe that really good teaching would be done?—That is my opinion. I don't see why drawing could not be taught by a little more care in a school, even though the teacher does not possess the necessary certificate, any more than good handwriting.

18449. Are all the teachers good at penmanship?—I often see a letter from a teacher, and I cannot read the handwriting.

18450. And he teaches writing in the school, and obtains result fees?—Yes.

18451. With the aid of models might not a sensible teacher teach drawing?—That is my opinion, but I cannot speak from experience.

18452. Professor FERRAGHINI.—Do you think it would be desirable, so far as children are concerned, that they should be taught drawing to scale?—I believe it would be the only useful drawing.

18453. And do you not believe teachers would be able to learn how to teach drawing to scale by the aid of instruments and rulers?—I think they would after a little while.

18454. It would not require the dexterity necessary for freehand?—No, and I think drawing to scale would make them more accurate in drawing.

18455. If there were encouragement given to do outboard work and some other things like that?—I could form no opinion about that. My chief concern is with agriculture, because it is at the present time, and possibly will long continue to be, the only industry in Ireland, and even our manufacturing and shipping industries at the present time depend on agriculture.

18456. You were proposing to have gardens at the children's own homes?—Would you now, do you think he is able to report on those home gardens?—I was thinking of that matter; it would be an exercise in drawing for each pupil at the end of the year to take to the school a plan of his garden, showing its size, drawn to scale, and the relative position of the various vegetables grown in it.

18457. But he might leave out the weeds; it would be necessary for somebody to inspect the garden?—The inspector could just take two or three of them indiscriminately. I would not expect a district inspector should run round from one to another.

18458. Supposing a teacher took them indiscriminately from time to time during the year?—I doubt very much if the Commissioners would accept the opinion of the teacher; if they would, we would be only too glad to do it.

18459. You might inspect them during the year, and the inspector then inspect one or two of them?—Yes, sir.

18460. Mr. BROTHERS.—In these model farms what pupils would you have taught?—I would have the pupils selected for a two years' course by a com-

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petitive examination, but an essential condition to be that they have completed their school course in the National schools first, and, in addition to that, shown some proficiency in mathematics, physical science, or agricultural chemistry.

18461. They would have finished their course in the National school?—Yes, according to the programme laid down, or at any future time, by the Commissioners.

18462. They would be over sixteen?—In or about, a boy that was ambitious to go to these schools would push on his education, and possibly be able to go at sixteen.

18463. You say you would require some knowledge of mathematics or physical science?—Or agricultural chemistry, according to the choice of the pupils.

18464. Where would the pupils get this instruction before they went to the model school?—In every National school, more or less, mathematics are taught.

18465. But elementary science?—They would be taught if it was made worth while.

18466. Agricultural chemistry?—Yes.

18467. Would you have that taught in a day school or an evening school?—I would not go in for evening schools in country places. A child would have to run an Irish mile or more to school, he would spend from 10 to 3 at school, get home then and take his dinner, and then, perhaps, the parents might think that they would find something for him to do besides letting him run back the same distance again.

18468. We have evidence that in country districts pupils do come to evening schools?—In certain districts they might, for instance, when Science and Art subjects was paying an Irish teacher the school boys might come in.

18469. If you made mathematics and elementary science a paying subject again might they not find it possible to collect pupils in the evening?—In some localities they might and in others they might not. If there was a small prize given to each pupil who passed creditably at his annual examination, because of any undertaking to be a success the workman should get his share, I would go more for giving prizes to the pupil than to the teacher.

18470. But prizes for what?—For their little gardens, each pupil who would pass creditably in his agricultural examination, and till his little garden according to the requirements of the programme, I would give him a prize.

18471. Would the pupils be boarded at these model farms?—Yes.

18472. And you would have a special staff of teachers?—Yes, men specially trained.

18473. Would you continue the literary instruction for pupils in the model farm?—That is a question that I could not form an opinion on, the knowledge of that might develop by time, after the farm had been working a little while they might be better able to know whether literary instruction would be required or not.

18474. But you think that is the way to improve agriculture in the country, and not by teaching dribbets of it in the elementary school?—To continue the ordinary book in the school and to have school gardens attached to the pupils' homes.

18475. You have no certificate for drawing, I think, you said?—Yes.

18476. Would you be willing to attend at a con- venient centre if classes were held there, to receive instruction in the method of drawing?—I would have no objection, but other teachers, as a rule, I believe, would have an objection.

18477. But suppose the school is not so much to teach them drawing as to give them hints how to teach drawing to their pupils?—I think every teacher should be anxious to attend that, but the risk of failing to get a certificate would deter many from going.

18478. This class is only to help the teacher?—I think this would be very beneficial.

18479. Would you like to have the junior pupils dismissed earlier in the day than at present?—I would.

18480. You mean these pupils up to the 3rd class?—Yes.

18481. Have you thought of this arrangement as a possible one, that the junior pupils should be taught in the forenoon and sent away, and the senior division taught in the afternoon exclusively?—If the Board and their officers would fall in with that idea, I think it could be done, and I believe it would benefit.

18482. You would be able to devote your attention undivided to the senior pupils while you had them, and the junior pupils while you had them?—I would be for the whole of the pupils of the school coming into the school at one hour in the morning, and then I would be for the junior portion having a shorter school day than the seniors.

18483. So that you might give some extra time to the senior pupils?—Yes, I find every teacher I know who is anxious to work up his school must give extra time to his pupils—more time than is on the programme, for instance, when approaching our annual examination we don't count the time, we are there up to 5 o'clock.

18484. But you send away the junior children?—Yes, the moment the school day started in the timetable has expired.

18485. Rev. Dr. WILSON.—Is yours a purely agricultural district?—It is, an alluvial district, lying at the confluence of the Boyle and the Shannon.

18486. Would you support the testimony of the former witness, that in your time the mode of farming has greatly improved?—I would. I fully endorse the remark he made about boning. I believe if the people thought boning would benefit their crops without doing irreparable damage to the ground they would try and avoid the law, even if they had to go out at night and do it.

18487. Is it your opinion that the teaching of the National schools in agriculture has had anything to do with that improvement?—It is my opinion it has had everything to do with it.

18488. Mr. STUTHIG.—Has not agriculture improved in other countries in the same degree as in Ireland?—My experience of other countries is nothing but I say in the programme in which we have of course to hold our own agriculture must be kept up, and if the Government does not help us our local efforts are useless.

18489. You have associations of farmers?—Unfortunately not.

18490. And you trace the whole agricultural improvement to the teaching of the schools?—I do.

18491. Rev. Dr. EVANS.—Not to the fear of the landlord or the fear of the law?—I could not go into that point. I look upon a farmer as protected by the law as long as he pays an honest rent, as decided by the laws of the realm, I look upon him as an independent in his farm as the Queen on the throne.

18492. Professor FREDERICK.—Have not agricultural papers had something to do with the improvement?—Agricultural papers, as a rule, don't circulate in my district.

18493. Rev. Dr. WILSON.—Is there serious potato blight in this district?—There is in my district.

18494. Have the farmers done anything to avert it?—In some isolated cases a potato sprayer was used, it must be all out of their own pockets, no encouragement whatever. There is also a column given to agriculture in the weekly papers. I attribute that to education, because in former times people were not able to read those papers.

18495. Captain SRAW.—Have the teachers any means of becoming acquainted with contemporary educational movements in other countries?—I am not aware that they have, for this reason, our vacations are very restricted and our means do not enable us to go into other countries during our vacation in order to see what improvements are effected in those places.

18496. When the inspector comes round, has he time to enter into these subjects with you?—Between

examining one section of the pupils and watching others, lest they would infringe the rules, I think his work every hard without having any conversation with the teacher, except to reprimand him for something that would go wrong; I am speaking a positive fact.

18497. Suppose that a class for manual instruction, general practical work, were established in some schools you think the teachers in the neighbourhood would be inclined to come and see the working of it?—I don't think they would; if it was established in one particular school that would create a kind of distinction, and the others would not like to fall in with that idea, and it was to remove that prejudice that I suggested the model farm.

18498. Then how are the teachers to get any acquaintance with improved methods of instruction if they won't come and see them?—I take your point to be that it would be established in one particular National school to the exclusion of the rest.

18499. Not to the exclusion of the rest, but to see whether the rest would like to adopt it?—I would not go in with that, I would go in for the Government to make a grant to establish perfect agricultural instruction.

18500. I am talking of manual instruction?—I have given no thought to that; in large cities and towns where there are commercial and manufacturing industries I am sure the teachers there would be competent to give an opinion on it, but my chief concern is agriculture.

18501. And you don't think there is any use in introducing anything else?—Not in a rural locality, but I believe it is useful in large towns like Belfast.

18502. Who do you contemplate as instructors in your model school?—Men, specially trained at the Agricultural College in Dublin in future days and experts from the different agricultural colleges in the United Kingdom at present.

18503. Have you any idea what such men's opinion is as to the training that children should receive before they come to you?—No, I never met a man of them, but I am giving teachers' opinions.

18504. Would you be surprised to hear they all prefer that the children should never have been taught agriculture before they come to them, but that they should be grounded in elementary science?—I would not like to agree to that. For instance, if a boy in the higher walks of life studied in any of the Queen's colleges in Ireland and went into another to complete his education, possibly the professors there would find fault with his previous education, and I suppose it would be the same amongst us teachers.

18505. Is not the teaching of agriculture rather ambitious in the National schools, don't you try to cover all the agriculture which it is necessary for a farmer to know?—We do.

18506. Is not that an impossibility in a National school?—I don't think it an impossibility; in 1874, 1895, and 1896, under different inspectors, I secured cent. per cent. in agriculture; in 1897 I was not so lucky; I am down to 93 per cent.

18507. Were your inspectors agricultural experts? He walked into us armed with the authority of the Board, and we could not ask him, "Are you qualified to examine our school?"

18508. Mr. HANMER.—Would you like to see introduced into the reading books lessons on the laws of sanitation and on temperance?—I would go in for that very much.

18509. Do you think if they were introduced into the books they would be explained by the teachers and dwelt upon by them?—I think they would, and I think it would raise the social condition of the people to a great extent.

18510. Mr. MONTAGU.—Is your school one of the typical rural schools that Mr. Doyle referred to, situated in the seventy per cent?—Oh, no; it is one of the worst attended. It is situated in a haggard district, where it is impossible in the winter for the children to come to school on account of the floods. The average for the year was thirty-nine, and for the last two quarters thirty-four and thirty-five.

18511. You have the aid of a monitor?—But I fear I am going to lose him on account of the average.

18512. What suggestions, if any, have you to make with regard to the programme. Would you desire changes, and if so, in what direction?—There should be some time found for teaching drawing, and I would suggest geography and grammar to be altogether omitted for third class, and the course considerably shortened for fourth and upwards. The amount of grammar required at present for high fifth should be sufficient for high sixth.

18513. Do you take up any extra subjects?—I take up algebra and book-keeping. With great difficulty I get the senior boys to finish their course. They are employed in agricultural occupations.

18514. With regard to that idea of yours that the pupils who have succeeded satisfactorily ought to get prizes, would you not think it right that the managers and local parties should give those prizes?—In face of the Permissive Act of 1875 and the Compulsory Act of 1893, I say any attempt to get local aid in the absence of compulsion is useless.

18515. A moment ago you said that you desired that the pupils up to third class might be able to go away. The regulation is in favour of infants only, but you generalised that up to third class. If you had it up to third class you would have very few remaining?—About half the school.

18516. And further that the time of departure for these infants would be indicated on the time-table?—Yes, from two o'clock.

Mr. HUBERT J. SWANEY, Teacher, Quaystreet National School, Sligo, examined.

18517. CHAIRMAN.—You are a National school teacher?—Yes; Quay street Junior, Sligo.

18518. Will you give us your opinion upon some of the headings you have mentioned in this paper that you have handed in. What do you say with regard to the attendance of pupils at schools with a view of developing what you think are the fundamental principles of any system of primary education—namely, the developing to the highest degree the faculties of the children, the encouragement of originality or individuality, and taking cognisance of the circumstances and possible future position of the child?—First of all, I consider that compulsory education is absolutely necessary before any system could be effectually adopted.

18519. Do you think there would be much opposition to compulsory attendance on the part of parents?—I dare say there would: by those parents against

where it would operate, there would naturally be objection.

18520. Do you think that if a law was passed to make attendance compulsory, except for a good reason, that the parents would accept the law, and take pains to make children attend more regularly?—I think they would.

18521. In fact, any opposition which might show itself at first would soon die out?—Yes, my lord.

18522. Passing on to the payment by results, will you shortly give us your views on that subject?—I think it is a very pernicious system, the payment by results, and I will enumerate the reasons why I consider it so. First, it is organised as a system of cram by which methods have no value whatever. Secondly, all scholars, whether clever or dullards, progress at the same rate, one class per annum, and at the same rate in all subjects mixed.

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tensively. Thirdly, a degree of success in dealing with neglected capacity meets with little recognition as compared with success in passing a high percentage of scholars. Fourth, the profession of the teacher is degraded by persistent and obtrusive appeals to the desire of gain. Teachers are tempted either to neglect those who will not pass, or otherwise force them on unreasonably. Fifth, there is no encouragement under it to a teacher to forward the higher moral and intellectual training of the pupils, because it is not paid for, and cannot be estimated by the Inspector at an incidental examination. And, also, I believe that scholars who have passed through this system lack mental alertness. Finally it destroys all individuality in the pupil, which I believe should be one of the principal ends of education to encourage.

18523. Now, with regard to any changes in the programme, what would you say with regard to kindergarten?—I think it should be made compulsory up to third class.

18524. In every school?—Well, yes.

18525. Is it taught much in rural schools, or at all in this district?—I don't know anything about rural schools.

18526. Well, with regard to town schools, is it taught?—Yes, I believe it is in the convent schools.

18527. With regard to drawing, what have you to say about drawing and designing?—I think it is a very important subject, and if I might go into detail a little, I would wish to give you an account of the efforts I have made in that respect. Some five years ago I had what I considered what might have been regarded as peculiar ideas upon education. I procured a book called Leland's "Practical Education," and was delighted to find that the views in that book corresponded with mine; and not only so, but they had been carried into practical effect and proved to be true. I found also in it that there was an association for the purpose of starting this practical education in England, and I communicated with the secretary of it with the idea of introducing the system into my own school. I was referred to the Irish secretary, Miss Burke, of Limerick, and after some communication with her I intended to introduce drawing into my school; I had a certificate in it myself, and had a natural taste for it. I now mention that my school is a junior school, and consists of only first, second, and third classes. I got also a book on drawing—Leland was a man who was not a teacher at all, but who was thoroughly imbued with the idea that stimulated him to start this subject, and he carried it out practically and successfully in America. I got his other book on "Drawing and Designing," and started on these principles. I procured all the materials myself, supplied them to the children, and started the blackboard drawing on the principles indicated, with a view to developing designing rather than copying drawings. Of course it was necessary to have an examination under the Board, and having a certificate, I thought I might be able to do that also. The Inspector came in after my year's work, and before examining the papers—he was a former inspector—he asked me why did I start drawing, and said that it was not necessary, inasmuch as it was not carried on in the senior school to which my pupils went afterwards. I said that I intended it chiefly as an educational exercise, and for the good of the pupils. He examined the drawing, and gave a very liberal supply of thoughts on the spot; nearly every one of the pupils received thought, and in his report he said that the drawing was worthless. I never attempted drawing after that. I consider that was one of the evil effects of the reading system, because the Inspector naturally did not wish, as I believe they do not, as a general rule, wish, to examine in extra subjects, seeing that they have quite enough to do under the high pressure work that they have at present.

18528. How long did you persevere with it?—One year.

18529. Do you think that drawing should be

optional in some schools and compulsory in others?—Yes.

18530. I see you put down it should be optional in second fifth and sixth, and obligatory in third, fourth and fifth; you think it should be optional in the lowest class and two highest and compulsory in the middle of a child's education?—Yes; I consider it should be optional in the second class, so that it might be a preparation for the compulsory work in third, fourth, and fifth.

18531. Is that optional on the part of the teacher?—Optional on the part of the teacher, and it need not be carried on to the highest stages in fifth and sixth unless the children, perhaps, intend to become architects or designers.

18532. Supposing that a system of manual instruction in the shape of woodwork were introduced which was not compulsory but optional, you would then be in favour of carrying on the drawing in connection with that?—Yes, my lord, I recommend that.

18533. Now, with regard to spelling do you think that the requirements should be reduced?—Yes, my lord, because they are too exacting at present, and in order to make room for other subjects that I have specified that I consider more important.

18534. How do you mean too exacting, there are only two ways of spelling, right or wrong?—The extent of it that is required in third class; it is too extensive. Some of the most difficult sentences in the book are given for children in third class to spell.

18535. But in higher classes you would have those more difficult words?—Oh, yes, but at the same time I would have it confined to a certain proportion of the book, not any part of it, like the subject matter of the reading.

18536. What would you suggest with regard to any alteration in the manner of teaching arithmetic?

—That the course is too extensive at present in the senior classes, and mental arithmetic, and higher mathematics should be a distinct subject and receive a higher fee in the junior classes.

18537. As regards grammar, where would you begin grammar?—In the fourth class.

18538. What would you make it consist of in sixth class?—Analysis of sentences.

18539. As regards geography what change would you make in that?—It is too extensive at present. I would not have the names printed on maps at all. I would have outline maps with, of course, the physical features all drawn in, and map-drawing should form an important feature in the teaching of geography.

18540. You mention here exercises in memory training and development of quickness of perception?—I think those are the most important things that should be introduced into the new system, because they consist of the development of faculties rather than the attainment of immediate practical results. They are dealt with pretty fully here in this book of Leland's, and were some of the things that Mr. Leland took up and carried out practically; he developed the memory of his pupils to a very high degree without interfering in any respect with their thinking—lessening their thinking power or power of judgment.

18541. Is it not considered to be one of the difficulties of the present system that the children rely very much upon their memory and don't use their powers of observation?—Yes, but any properly taught system of memory training, if it was properly taught, and developed on proper principles, would be a benefit; as it is, it is only incidentally taught and developed, it is not properly or systematically developed to its highest degree.

18542. I think you are in favour of reducing the reading?—With regard to reading I think it is impossible to achieve what is expected at present. I would suggest that a portion of the reading book be set apart for examination—say a third or a fourth be set apart for accurate knowledge of the subject matter, the pupils thoroughly ground in that portion of it

would easily ascertain for themselves the matter out of the remainder.

18543. As regards manual training, what do you understand by manual training, anything beyond woodwork?—Modelling in clay.

18544. The general programme that they have in England?—Yes.

18545. And you are in favour of its being introduced?—Yes.

18546. And made compulsory?—Yes.

18547. And where would you commence with it?—In fourth class.

18548. With modelling?—Yes, where kindergarten leaves off. Kindergarten leaves off in third and manual instruction could be commenced in fourth.

18549. Where would you begin to teach the elements of science?—In fifth and sixth.

18550. Do you think that prizes should be supplied by the Board gratuitously?—Yes, I think one of the chief benefits of the kindergarten system lies in the fact that the work is done voluntarily and almost unconsciously by the pupils themselves; they are not forced or compelled to do it, and I believe the same thing holds with the pupils in the senior classes. The work they do earnestly and voluntarily on their own part is much more effective, more lasting, and more beneficial to themselves than what is compelled to be done into them, and I believe the only means to do that is by a system of prizes. Children will not work from remote motives, the majority of them; they will work from immediate motives and the most immediate motive is a prize. I think if the Board would give a supply gratuitously, and have them exhibited in glass cases in the school where children could see them it would be an effective stimulus to education. The only prize we have to give them at present is the cane.

18551. Rev. Dr. EVANS.—Will the explanation that is now required to be taught along with reading add much to your trouble?—It will take up more time.

18552. Professor FINKELBAUM.—Do you think that drawing to scale would be a desirable thing to introduce as well as freehand drawing in our schools?—Yes.

18553. Do you think the teachers could easily learn to teach it?—Yes.

18554. You don't think there would be any serious difficulty in getting them to learn to teach drawing to scale?—I think not, in the town schools especially.

18555. Would it be desirable to introduce in connection with drawing to scale the making of small articles of which they made drawings first and afterwards constructed?—Yes, I believe it would.

18556. If the materials were provided by the school authority you don't think there would be much difficulty in getting that sort of work done?—No, I do not.

18557. It would be a continuation of the kindergarten work?—Yes.

18558. Would it not be a sufficient reduction in the amount of work and time that is required if the readings in the reading books were made easier and more intelligible to the children?—Yes, and introducing matter into it that would be of greater utility to the children leaving school. For instance with reference to the government of their country, and enabling them to perform their duties as citizens after leaving school is a more effective and intelligent manner than they are at present, would be very important.

18559. Is not that the great difficulty of requiring the explanation of the books, why it would take so much more time than in the past, because the lessons required so much explanation to children of the age that read them?—Not so much that, as that the quality of matter is too great to do so.

18560. But if children easily understood what they read, why should it take so much more time to explain it to them?—If they understood it easily it would not, but the two difficulties were combined; the books were both difficult of understanding and too

extensive, and the greater difficulty was the difficulty of understanding.

18561. Then if the books were made as extensive as they are, but were made easier, and the subjects more intelligible to children, it would not require more time than at present?—No, certainly not.

18562. Mr. STRUCTURE.—Have you actually tried the system of developing the memory which Mr. Leland advocates?—No, I have not.

18563. Have you known any person who did so?—No. The reason I have not done it is because I have too much to do in my school, to comply with the results system at present.

18564. When you were teaching drawing you taught it on the basis of this book?—Yes.

18565. And you consider it an easy system to teach?—Well, I don't consider it by any means an easy system.

18566. Your experience would bear out this system "that by means of it any person who is capable of learning to write may also learn not only to draw but to design, and to invent original decorative design"?—Quite so.

18567. Your experience bears out that statement?—I have not much experience, but I believe it is true.

18568. Then any teacher who had not learned to draw might acquire a knowledge of it from this book if he studied it faithfully?—I think so.

18569. But these improvements you suggest you consider to be quite inconsistent with the present results system?—I do.

18570. But they are improvements that are desirable even if they should lead to the total abolition of the results system?—Yes.

18571. Rev. Dr. WILSON.—You consider compulsory education would be good for the children apart from objections by parents and others?—Oh, certainly.

18572. What do you consider, from your experience, the easiest and best mode of teaching a child to spell properly?—I don't know any other method than the one I have adopted myself, underlining the words in the lesson, marking them in school, and making them learn them at home as a task, and, having tablets, they can learn in school also.

18573. You don't require them to learn a column of spelling?—No.

18574. Rev. Dr. EVANS.—Do they learn the practical rules for spelling?—Mine is a junior school.

18575. Rev. Dr. WILSON.—You just underline the words you want them to spell?—Yes.

18576. Mr. STRUCTURE.—As regards the question of giving prizes, it would be, probably, rather an expensive operation for the Board; do you consider certificates to the senior children would have somewhat the same effect?—I have supplied certificates also, but I think the prizes better; I have given certificates to the children who have passed, and held that forth as an inducement to them to endeavour to work for the results examination, and it has been effective to a degree, but not as effective as prizes.

18577. Under the Science and Art Department, the pupils work for no other inducement than a certificate, but a certificate is valuable to obtain a situation; would not a certificate to a boy in the sixth class be equally valuable to him?—At present it has no value.

18578. If you had not to prepare the children for the results examination, could not the lessons themselves be made more interesting?—I daresay they would.

18579. Would not that be a better plan—that the teacher should make his lessons so interesting that the children would attend without any inducement?—I think every possible inducement should be adopted, and I think that is one. Of course it might be omitted but I think the giving of prizes is the most effective for most children, particularly the young children with whom I have to deal, of first, second, and third class.

18580. Do you think one or two prizes in the class would be sufficient?—That would all depend upon

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the size of the class, certainly two prizes in a class of, I should say, twenty or thirty.

18581. You contemplate that every child who passed should get a prize?—Not at all.

18582. Mr. HARRINGTON.—Do you think that the managers generally—I don't want to particularise any—do you think that the managers of the schools visit these sufficiently often and exercise sufficient influence?—Well, of course, I don't know anything about any other school except my own.

18583. I don't refer to that, but I mean from your knowledge of the teachers of this district?—I am not prepared to give an opinion upon the point, I have not sufficient knowledge to express an opinion upon it.

18584. Mr. MOLLAY.—By your statement I observe you are a trained teacher?—Yes.

18585. And hold rank as first of first?—Yes.

18586. And you have been principal teacher for five and a-half years, and previously had been assistant?—Yes, for three and a-half.

18587. I observe that you state you are in perfect sympathy with the introduction of manual instruction into schools?—Yes.

18588. Mr. REMESSES.—You said that kindergarten should be made obligatory in all schools?—Yes.

18589. How could it be taught in a school with only one teacher, without a monitor?—Of course I have not considered the details of it; it is merely the principle of the thing, and looking at it from an educational point of view.

18590. Perhaps you would add "where possible"?—Yes.

18591. What has been the effect of the results system, first on the education of dull boys, and, secondly, on that of clever boys?—On dull boys it has made them duller still, if that were possible.

18592. Is it not the case, that it has induced the teacher to spend more time on the instruction of backward boys?—It is to the neglect of the clever boy.

18593. Mr. STRUTHERS.—If they have not made their 100 attendances?—They are left aside as a rule.

18594. Mr. REMESSES.—It is the interest of the

teacher to spend a great deal of time on the instruction of the dull boys who have made the proper number of attendances?—Yes; but, as a rule, they will not have made the proper number of attendances.

18595. There is no connection between dullness and irregular attendance?—There is in this way: as a rule, the boy is not up in his programme who has not made his attendances, and he will be considerably backward while the others are advanced.

18596. Certainly, but when a boy who had given 100 attendances, was by nature of a duller disposition than other boys, is it not the interest of the teacher to devote considerable attention to that boy so as to enable him to pass the examination?—Yes, and it is done, but he is an exception.

18597. Then, as regards the dull boy, the system works advantageously?—Yes.

18598. Is it, in your opinion, the effect of the system that it keeps the brighter boys back?—Yes.

18599. Then it would depend on the proportion of dull to clever boys as to whether the system worked well or ill?—Yes, to a certain extent, and it depends also on the attendance of pupils.

18600. Mr. STRUTHERS.—It would not improve the teaching of those boys who had not made their 100 attendances, I understand?—No.

18601. The present system has not the effect of making the teacher devote special attention to the dull boys who have not made their attendances?—No.

18602. And this will be a considerable proportion of the dull boys in the school?—Yes.

18603. Mr. REMESSES.—When will the teacher know whether they have made their 100 attendances?—He keeps a record.

18604. How does he know in the first quarter?—Not in the first quarter.

18605. Therefore, in the first quarter his interest is to look after the dull boys, and bring them up to a certain level?—Yes.

18606. And as regards the second quarter, would you not say the same?—Yes.

18607. And even the third quarter?—No, for it is very easy for him to see then.

Belmont.

Oct. 12, 1897.

FORTY-SECOND PUBLIC SITTING—TUESDAY, OCTOBER 12TH, 1897,

AT 2 O'CLOCK, P.M.,

At the Grand Central Hotel, Belfast.

Present:—REV. HAMILTON WILSON, D.D., in the Chair; STANLEY HARRINGTON, Esq., D.A.; W. R. J. MOLLAY, Esq.; CAPTAIN T. R. SHAW; and J. STRUTHERS, Esq., B.A.;

with J. D. DALY, Esq., M.A., Secretary.

JOHN MORAN, M.D., Head Inspector of National Schools, examined.

John Moran,
M.D.

18608. CHAIRMAN.—You are the Head Inspector of Belfast and district?—Yes; I was for nearly eleven years District Inspector here.

18609. And you are now?—Head Inspector nearly a year here.

18610. Where were you before that?—In Dublin.

18611. How long were you there?—About one and a-half years.

18612. Well your experience as District Inspector, and now as Head Inspector in Belfast would enable you to give some valuable suggestions to the Commission: would you, as briefly as you think proper, advise us as to the order of procedure in introducing manual instruction to our National Schools?—I think it

should commence with the Training Colleges, I would make it compulsory in the Training Colleges.

18613. To train Queen's scholars?—In handicraft, and to make it compulsory afterwards in the schools taught by those teachers, to withhold their training diploma unless they have a class of handicraft in their schools.

18614. Do you think it would be needless and in fact foolish to attempt to have manual instruction in schools under teachers that have not got the training?—I think it could be done, as I suggest in my report to the Commissioners, by itinerant teachers, or by bringing in the village carpenter or some other handy man and paying him the results fees. After a while the

teachers would get jealous of the outsider and would acquire a knowledge of it themselves.

18615. First you begin with the Training Colleges; second—insisting on the teachers having a class in their schools, that is Queen's Scholars who have left training, and withholding the diploma until they have a class.

18616. These are the two suggestions you make?—Yes, these would be the two suggestions.

18617. Mr. Mottov.—For a number of years you held the position of District Inspector in Dublin?—Yes.

18618. And previously to that, if I mistake not, you had experience of the working of the National System in the west of Ireland?—I had in Westport for three and a-half years.

18619. So that you are practically now familiar with the east, with the extreme west, and also with the north?—Yes.

18620. And prior to your appointment as Head Inspector you were for many years stationed here as District Inspector?—Yes.

18621. Now in connection with the present programme under the National Board, are there any points in which you think it falls short or that you would like to suggest improvement?—I would, sir, in arithmetic.

18622. What is the nature of the suggestion you would offer there?—We examine in arithmetic at present from printed cards, the teachers prepare the pupils from cards also, and after the simple and compound rules have been got over there is very little teaching except from cards. I put a stop to this about twelve years ago when I was in Belfast before, but it has extended again very much.

18623. Then you, so to say, deprecate the use of cards in the instruction in arithmetic?—I think that there should be occasionally oral examination by the Inspector.

18624. Is it not in the power of the inspector, even at present, to give an oral examination?—Not as the results examination, he may at a secondary inspection.

18625. Well, at the secondary inspection?—They are virtually abolished now, they are merely incidental work, when little or no examination takes place.

18626. In the case of the Head Inspector who has not such a wide area of results examination to hold in the year, is it not in his power to examine orally the arithmetic to a large extent?—It is as much as he likes, but not at results.

18627. In connection with the Belfast schools, how did you find mental arithmetic?—Fair.

18628. Is there any improvement in mental arithmetic as compared with previous years?—Not much.

18629. A few years ago some of the Belfast merchants seemed to think that in the primary schools in Belfast mental arithmetic was not sufficiently attended to, having been away for an interval, and then returning here in the capacity of a Head Inspector, have you found any appreciable change?—Not much.

18630. Is kindergarten taught extensively in this district?—Yes, it is taught extensively in Belfast.

18631. And is it taught successfully?—In some cases it is; it varies very much, in some schools it is very well taught.

18632. Is it taught exclusively by teachers who hold certificates of competency?—So far as I am aware it is.

18633. Who supplied the plan, so to say, for kindergarten?—The local parties—the manager usually.

18634. Is it confined almost exclusively to the infants and 1st and 2nd classes?—Sometimes there are 3rd class pupils, but very seldom.

18635. Would you advocate the propriety of extending that to higher classes than the 3rd?—Yes,

I think it would be very desirable to have it in 3rd and 4th classes.

18636. And even higher, perhaps?—Perhaps higher.

18637. So that it might run through the entire school course?—Through the entire school course.

18638. What is your opinion of its educational value?—I consider it of the greatest educational value to educate the eye and hand in giring the idea of form and figure and shape.

18639. Do you find drawing successfully taught here?—Drawing is very poorly taught.

18640. Is it taught in a fair number of schools?—It is taught in a large number of schools in Belfast, but with a very moderate degree of success; the children are left a good deal to themselves, and the inksrubber is too much used in rubbing out.

18641. How do you account for the want of success; one would imagine that in Belfast drawing would be regarded as a very important subject?—They take a good many extra branches in some of the schools where drawing is taught, and they are teaching those extra sometimes while the children are employed at drawing.

18642. Then you account for the inefficiency of the instruction in drawing by the fact that the teacher, who ought to be attending to the drawing, is attending really to another extra branch?—Yes.

18643. Is not that rather a departure from the arrangements of the time-table?—Of course it is, and I should feel inclined to deal very severely with it if I found it, but we cannot see them at work every day.

18644. Have you turned your attention at all to manual instruction?—I have.

18645. Have you any suggestion to offer in connection with the introduction of that into schools here; Belfast would seem to be a very suitable place for its introduction?—It would be very desirable to introduce handicraft here and in all the large towns; it would be desirable to introduce it everywhere, but unfortunately I think it would be very difficult to do so in the rural districts.

18646. But in such an important centre as Belfast you would be in favour of the introduction of manual training?—Decidedly.

18647. Not confined to handicraft or carpentry work?—Not confined to these.

18648. But to such a form of instruction as would train the hand and eye?—Yes.

18649. Have you seen the working of any manual instruction class?—I have had a good deal of experience in examining in handicraft. I examined the classes in Marlborough-street for two or three years. I had a class in handicraft at Oldcastle, and another at Athboy.

18650. These were three important places, did the manual instruction extend beyond carpentry work, so to say?—Not beyond carpentry work.

18651. Was it based on the Board's present programme in handicraft?—It was.

18652. Do you approve of that programme?—I do; it might be simplified, perhaps.

18653. It has not, however, been introduced into any place in Belfast, so far as you know, up to the present?—I think there are two schools in Belfast in which it has been introduced—one of them is St. Matthew's, Ballymossure, I forget the other.

18654. Have you had an opportunity of seeing its working in either of these places?—No. It is also in operation at the Belfast Model School.

18655. Mr. HAMMOND.—I did not quite understand what is in operation there?—Handicraft.

18656. Is what seen?—Carpentry.

18657. Mr. BRUCE.—Under the programme of the National Board?—Under the programme of the National Board.

18658. Mr. Mottov.—But you have not had an opportunity of seeing it in operation?—No, except in the Model schools, when I accompanied Professor MacGillivray and his brother.

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18659. How did you find it working there?

Judging by the result, it did not seem to be much.

18660. By whom is it carried on?—By two of the assistants.

18661. And they hold certificates of competency in that particular branch?—I believe they do.

18662. And I presume the National Board supply the plant in the case of the Model school?—I think so.

18663. Had you any other observation to make with regard to the results programme?—No, sir, nothing particular, but cookery is a thing I would like to say a word about. I have had a good deal of experience in cookery. Two Head Inspectors, of whom I was one, examined 147 pupils at the Central Model School, Queen's School, in training, and the result was remarkably good. I also had it in four Convent schools in Month. I believe that it should be made compulsory in all the female training colleges, pretty much as handicraft in all the male training colleges.

18664. And drawing, doublet?—And drawing.

18665. You would advocate the propriety of cookery being made compulsory in schools where teachers hold certificates?—Yes.

18666. And you would extend it to rural schools?—Extend it as much as possible.

18667. In the case of teachers already in the schools, who have been trained, say a considerable time ago, or perhaps not trained at all, have you any plan by which cookery could be established in the schools?—There was an itinerant teacher sent to Carrickfergus last autumn, and the headmistress has since qualified for a certificate, and has a class in operation in the Model school there.

18668. I presume you would advocate the propriety of the cookery instruction being carried on continuously during the year, and not confined to the short period during which the special teacher gives instruction?—Throughout the year.

18669. And then that the ordinary teacher of the school, if sufficiently qualified, would take it up and carry it on later?—Yes.

18670. Have you had experience of laundry work in any of the schools?—No.

18671. You have not touched on the subject of needlework; had you any special views to put forward with regard to needlework, say the alternative scheme?—The alternative scheme would be very desirable, but it has been a failure in this circuit; I mean it is not taken up; nearly all the schools have got exemption from its operation.

18672. I believe Belfast was the earliest place in which exemption was taken to that scheme; what was the chief ground of objection?—It was not popular with the parents. I know at Oldcastle, after it was introduced, half the sixth class girls left; then the teacher taught them a literary course in addition to the alternative scheme, and they returned again. I suggested, in my report to the Commissioners, that the needlework might be extended to one and a-half hours instead of an hour, and that the boys could be engaged at handicraft or drawing, or some other manual instruction, at the time.

18673. Do I understand you now to suggest that there ought to be 7½ hours compulsorily devoted to needlework in the week rather than 5 hours?—I think 5 hours is quite sufficient.

18674. I presume you are aware that in England they have not got such an extensive time devoted to needlework as five hours even?—No, I believe not.

18675. Are you satisfied with the results in needlework?—They are very poor in Belfast.

18676. How do you account for that?—I used to be told by the teachers when I was here as District Inspector that the little under-clothing and objects of that kind could be bought as cheaply in the shops; the children work a good deal in the mills, and think they can employ their time more profitably.

18677. Do you find that repairing of clothes is

carried on as part of the needlework instruction in the Belfast schools?—Very little, if at all; I have not met with it any where yet in Belfast.

18678. Now from your statement, Dr. Moran, needlework is in a rather low state; have you any suggestion as to how it might be improved in your circuit; are your observations exclusively applicable to Belfast?—To Belfast; it is fairly taught through most of the towns in the circuit.

18679. Has the alternative scheme been taken up largely throughout the circuit?—Very little; there are very few schools in which it is taught.

18680. I presume, except in the rural schools, agriculture is not taken up?—Agriculture is not taken up in the town schools, not in Belfast.

18681. What is your experience of the working of it in the rural schools?—It should be made more practical, if possible; the teacher could do a good deal if he wished, either by means of the school garden or a neighbouring farm, the sole object at present is the earning of results fees by examining them from the text-book. They are told how things are done instead of showing them how they are done, and getting them to join in doing them; that is the great fault of the teaching of agriculture in the schools.

18682. In the rural portions of your circuit are there many examples of school farms or school gardens?—There are a few, not many.

18683. Your circuit extends over a number of counties, what county in particular?—I think in the county Antrim.

18684. How do you find those conducted?—I have not had an opportunity of examining them yet; what I should like to have attended to very much is the cottage garden; I would advocate strongly, attention to cottage gardening and utilising the land at nearly all seasons of the year.

18685. In your report to the National Board you refer to the discipline of the schools, and you think it is open to great improvement, what suggestion would you offer as to carrying out that improvement?—I should say it would all depend on the teacher, it is almost impossible without the proper teacher to have proper discipline.

18686. You don't advocate any special payment for that particular branch?—I would; I think payment should be made altogether for the value of the school as a whole, and I would largely abolish the present system by having more class examinations.

18687. You advocate the propriety of having more class examination at the results examinations rather than individual examination?—Yes.

18688. And would you include the examination of pupils who perhaps did not attend the minimum number of days as well as of pupils who made those days?—I think all the children on the rolls should be examined.

18689. When your duties as Inspector commenced the results system had been only a comparatively short time in operation; the old system prevailed largely, that is, 25 or 36 years ago?—Yes, the results system commenced in 1871.

18690. Are you able to contrast the results obtained under the old system and under the results system?—Not very well.

18691. The results system as it now prevails was only a short time in operation when you were appointed Inspector, then you must have had an opportunity of forming a judgment from an educational standpoint as to the value of the system in force prior to the introduction of it?—Well, I think that something intermediate between the two would be desirable, that there should be a more searching examination than there used to be before the introduction of the results system.

18692. And by a more searching examination do you mean that the Inspector failed to examine more classes or gave more prominence to seniors rather than juniors, or vice versa?—Yes, it was unnecessary,

I believe, under the old system to examine the whole school.

18693. Have you outlined in any way practically how that suggestion could be carried out, that is, close examination of all pupils on the rolls, and, to a certain extent, adherence to the form in use prior to the introduction of the results system?—I have not formulated anything, but I could if you considered it desirable; I would draw up some document.

18694. Mr. HARRINGTON.—With regard to the calling of the roll, I presume that here, as in other places, the roll is called at eleven o'clock?—Before eleven o'clock; it must be entered in the daily Report Book at eleven o'clock.

18695. Would you be in favour of having that called at ten instead of eleven o'clock?—I would.

18696. You think that all the children who do come to school could be there at ten as well as at eleven?—They could be there at ten o'clock.

18697. Would that be pretty general in the districts that you have been inspector over?—I think so; perhaps half-past ten, allowing a margin of half an hour to come in.

18698. But as regards the city of Belfast?—It might be called at ten o'clock; the attendance at the schools in Belfast is sometimes very late in the morning.

18699. You know, I dare say, that in some of the large towns in England the school day is divided into two parts, one on to twelve, when they go to their dresses and rooms at two o'clock; would that system work well in a large city like Belfast?—I think it would.

18700. Do you think the parents would like it?—I am not sure about the parents, but it would work well.

18701. Do you think it would be an advantage?—I think it would; the children are fagged and tired after five hours at school.

18702. You think the rest they would get would be an advantage?—I do.

18703. Turning to the girls' side of the work, I think you said the alternative scheme was a failure in Belfast?—Yes.

18704. Can you say in how many schools it was tried?—I don't know; I was not here at the time they asked exemption.

18705. Would one of the reasons of this failure be that the parents of the children in some of the schools are of rather a good class, and preferred their children should be taught literary subjects instead of anything like dressmaking?—I think not exactly that; there are not many schools in Belfast of that class.

18706. What do you consider the probable reason of its failure?—The difficulty of providing materials, the cost of materials, and the objection on the part of the parents.

18707. But why did the parents object; was it on account of the length of time devoted to it, or that the work done was not well done?—The length of time, the mothers in some cases said they could teach their girls to sew at home, and would rather that while they were at school they should be taught the literary subjects.

18708. Belfast is, of course, a place of many industries, and differs in that respect from other towns in Ireland; do you think the parents generally in this city would approve of the introduction of manual instruction?—I cannot well form an opinion on the matter.

18709. Have you heard it said that the teaching in the schools is of too literary and not sufficiently practical a turn?—No; I have not.

18710. Would not the hand and eye training be of great advantage?—Certainly.

18711. At the present moment there is very little being done in that direction in Belfast?—Well, there is a good deal done by the Workington's Institute.

18712. I mean in the primary schools?—Very little.

18713. Though it would be of special importance here that hand and eye should be trained from the earliest time?—Yes.

18714. With regard to the text-books, the lesson books, do you think they are sufficiently interesting to the children?—I think they might be varied; there is a new set of alternative readers now on the Board's list which can be used instead of the old lesson books.

18715. Do you think these of an improved character?—I am not quite certain; I have not read them over yet.

18716. Would you consider that the introduction of lessons on temperance and laws regulating sanitation would be of great advantage in these schools?—It would.

18717. You think it would have a decidedly moral effect on the children in after life?—I think so; we put a lesson on the Bible of Intemperance, by Lady Wilde, in the fifth book at the time of its revision.

18718. But these lessons should be fully explained by the teacher?—They should, and I would put in lessons on the mechanical powers, the lever, &c.

18719. Do you think the books are explained now by the teachers?—There is very little explanation.

18720. You think that is one of the faults of our system?—It is.

18721. But you say drawing from models or objects is not in vogue in Belfast?—No, I don't know any school in which it is taught. I would be in favour of it, and also of practical geometry, especially for children in a place like Belfast.

18722. You spoke of handicraft being taught in a couple of schools here, would you describe to us what the nature of that handicraft is?—I have not seen it.

18723. You don't happen to know what it is?—I think it is carpentry.

18724. Captain SHAW.—Is it according to the syllabus issued by the Board?—Yes.

18725. Mr. HARRINGTON.—Are not these two schools in your district?—My constant as head inspector extends over eleven districts. I have forty-one schools under my own immediate supervision, and these are scattered through several districts.

18726. Mr. MOLLOY.—How long are you head inspector in Belfast?—Since the 1st of November, and we have been at a good deal of special work in the Education Office during that time.

18727. Mr. HARRINGTON.—We shall have an opportunity of seeing some of this handicraft. Do you know have they separate rooms or buildings for teaching it?—I am not sure; they have at the model school.

18728. How is grammar taught in schools in this district?—Not very well.

18729. Do you consider, generally speaking, if and other subjects are taught too much as lessons by heart?—I do.

18730. You think a more practical way of teaching grammar would be during the progress of the ordinary reading?—Yes, the two might be combined.

18731. You advocate the teaching of cottage gardening, what do you mean by that exactly?—Such a garden as would be attached to a cottage, that is a garden in which there would be cabbages, cauliflower, fruit trees, gooseberries, currants and other things that might be grown in a kitchen garden for domestic purposes.

18732. That would apply to rural districts?—To the rural districts mainly.

18733. But to do that do you think it would be necessary to have attached to the schools, school gardens?—It would be very desirable if it could be done.

18734. Mr. SPROTHING.—I think you quite approve of the kindergarten instruction in the schools in your district?—I do, and I think it ought to be extended to the higher classes.

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18733. You don't think it wastes children for profiting by the subsequent literary work in the more advanced classes?—Certainly not.

18734. You have seen the statement that a teacher preferred to have children straight from the streets rather than from the kindergarten class?—Yes, but I don't agree with that statement.

18735. You would have this kindergarten instruction extended right through the school?—Right through the school.

18736. Of course the material would be more and more difficult as you went on, and the exercises admitting of a greater degree of accuracy?—A greater degree of accuracy.

18737. In that case you would not recognise any real difference between kindergarten and manual training?—Very little; one could graduate into the other.

18738. And they would serve the same purpose—to develop accuracy among the children, accuracy of execution, and also to relieve the work of the school?—Yes.

18739. I suppose you find that five hours' continuous instruction in literary subjects is rather fatiguing on the children?—Rather fatiguing.

18740. And their intelligence might be developed by work of kindergarten or manual instruction which would interest them, and would not be tedious the same way as the ordinary literary subjects?—Yes.

18741. Then you have drawing at present in the Belfast schools?—Drawing is taught in most of the Belfast schools.

18742. By teachers who have been trained in the training colleges?—Some of them trained in the training colleges, others have been examined for certificates.

18743. In the rural districts of your circuit is drawing much taught?—Very little.

18744. I suppose you would make the same remarks about the introduction of drawing as you would about manual instruction?—I would.

18745. That you would insist on its being taught in the training colleges, and on those who have a certificate teaching it?—Yes.

18746. It has been put to us that if manual instruction was introduced into the schools generally there would be a falling off in the literary work?—I don't think there would be.

18747. You think there would be a sufficient time, even in the present school course?—I believe there would be ample time, and Saturdays could be utilised.

18748. Don't you think something could be saved from the present literary programme without any loss of efficiency?—Yes, it might be slightly curtailed.

18749. For instance, grammar might be taught along with reading?—Along with reading.

18750. And if the books were simpler and better graduated, greater progress might be made in reading without more time being devoted to it?—Yes.

18751. Would you be in favour of a test in unseen reading as a test of efficiency?—Perhaps it would be a rather difficult test, except in the senior classes.

18752. What I mean is that children who have been reading a book of a given degree of difficulty should be tested in another book, certainly not more difficult, but presumably easier than the book they had been reading; do you think that would be a fair test?—I think it would be a fair test.

18753. It would prevent the children getting up a book by heart, and would tend to an improvement in the teaching of reading?—Yes, it might be tried with advantage.

18754. You spoke of the bad effect of teaching from cards in arithmetic; what sort of results do you object to in the teaching from cards?—The teachers prepare printed cards like ours; they give those to the children to work away at them, it is more mechanical manipulation, there is very little of the principles of arithmetic taught.

18755. They classify sums into types, and teach the

children how to manipulate a certain type of question?—Yes.

18756. Without going into any explanation?—There is very little explanation of the principles of arithmetic.

18757. And you find the same thing with mental arithmetic—that it is not much taught?—Perhaps it is better taught than the other in some schools; it varies very much.

18758. Do you regard it as a separate subject?—No.

18759. What do you think, then, is the cause of so little attention being given to explaining the reasons for rules in arithmetic, and to mental arithmetic?—I daresay it is want of sufficient time; the time is devoted to other subjects, sometimes to extra exercises.

18760. But it is not devoted to the same subject, arithmetic, in a wrong way, preparing the children in certain types of sums and cards?—Yes, they will do our cards better at the examinations by extreme practice at the cards.

18761. But supposing you wanted to get rid of this teaching from cards, do you think that it would be possible to do it under the present results system?—I think so.

18762. Do you think the teachers could be induced to teach the principles of arithmetic without trying to get up the children in definite types of sums?—To teach the principles and practice of arithmetic together.

18763. But the knowledge of arithmetic is always tested by cards?—It is tested by so by cards.

18764. If the children make a pass on these cards the results fee is paid, and it really does not matter as far as the money goes whether the teacher has taught the subject intelligently or not?—Yes, that is what I object to.

18765. There is no special fee for mental arithmetic?—No special fee.

18766. What inducement is there to the teacher to give any time to it?—The Inspector asks a few questions in it, but it is one of the sub-heads of the programme.

18767. Would the examination in mental arithmetic affect the amount of grant the school would get?—No.

18768. So that is very much in the air this examination?—Yes.

18769. And it would be a great advantage to get rid of the results system, so that you might secure a more intelligent teaching of arithmetic?—I am strongly of that opinion.

18770. If you could make your examination in mental arithmetic bear on the amount of grant paid to the school then the arithmetic would be better taught?—I think it would be altogether better taught if I had power to ask children questions on slates and examine the grant for the entire.

18771. Combine the result into one definite opinion as to the quality of the instruction?—Quite so.

18772. But you prefer to have co-ology taught by the regular class teacher of the school?—Yes, where she is qualified to do so.

18773. But in a large city like Belfast might it not be better to have it taught in centres by an expert teacher of co-ology?—That could be easily done.

18774. It would be more efficiently taught in that way in all probability?—I think it would.

18775. That would certainly be the case in towns whatever might be the case in rural districts?—Yes.

18776. About the cottage garden, don't you think the results you aim at might be attained by getting children in country districts where alone cottage gardening would be taught, to cultivate plots of their own at home?—Yes.

18777. Getting seeds from the teacher and bringing the results to him?—Yes.

18778. And having the various things they are doing discussed and explained by him?—If there was

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a garden attached to the school that would give them a taste for a garden at home.

18781. Do you not think it could be done by plots attached to their own houses?—Not as well, the teacher could not go to every garden.

18782. At present where there is a cottage garden the teacher is bound to take out the children so many hours in the week?—Yes, usually during playtime.

18783. I believe he must bring them out every day?—It must be every day.

18784. Of course there are some days when it would be absurd to bring the children out?—Yes, you could not bring them out in bad weather.

18785. And there is a great part of the year when there is very little interest in the school garden?—Very little in winter.

18786. And if cottage gardening were retained on the programme it would be better to relax that rule so as to allow the teacher to teach them in the school?—When I say the children have to go to the garden in half an hour that does not apply to winter.

18787. Captain SHAW.—If there is a garden attached to the school is it not a rule that they are to attend half an hour every day, to the school garden?—I am not aware that there is such a rule.

18788. But you think that it might be taught indirectly by taking the children out less than half an hour every day at the proper seasons of the year?—At the proper seasons of the year.

18789. Mr. STURTEVANT.—Is science taught in the schools in Belfast?—Very little.

18790. Have you any object lessons in the junior division?—Yes, in the infant schools we insist on object lessons; I always examine on object lessons.

18791. There is no separate results fee?—They are paid for infants instead of 3s. in the ordinary national schools, and we insist that they must adopt drill and object lessons and school songs.

18792. Don't you think that object lesson instruction might be usefully extended to the higher classes?—I think so.

18793. In the same way as kindergarten should be extended?—Yes.

18794. Do you think five hours a week absolutely necessary to obtain satisfactory results in needlework?—Yes, I think it would be necessary, especially as a good deal of the time is wasted in commencing, providing materials and giving them out to the children.

18795. You are aware that in other countries, such as England, what seem to be good results are obtained in much less time, three hours. Is there any difficulty in the way of needlework instruction in providing materials?—Yes, in some of the rural schools, very great difficulty.

18796. But not in the town schools?—Not in the town schools where the parents of the children are well to do.

18797. But where the parents of the children are not well to do?—There is some difficulty.

18798. Do you think it would be possible to have an arrangement by which the managers should provide the material?—If the managers were forced.

18799. Well, have some compensation to them from the National Board for providing materials, and then sell such things as were saleable?—Yes.

18800. Supposing the needlework to be taught indirectly, say in three hours a week, two hours of that time might be usefully devoted to cookery?—Yes.

18801. May I ask if drawing is taught to the girls as well as to the boys in Belfast town schools?—Yes.

18802. Captain SHAW.—You said that the failure in drawing was due to the teachers not teaching it, but merely allowing the pupils to work by themselves?—Of course I would modify that largely, I would say in some schools, not in all.

18803. Do you think this may be partly due to the programme of drawing which is laid down?—No, I think not.

18804. Don't you think it would be possible so to inspect drawing and lay down such a programme that the teachers would have to pay attention to the children while they were learning it?—Well, I think there would be very little difference.

18805. Mr. STURTEVANT.—Is not this because general inspection of the method is better than examination of the results just as in the case of arithmetic?—Yes.

18806. Captain SHAW.—The present programme only includes freehand drawing as a necessity?—That is so.

18807. I think you said you would approve of geometrical drawing or drawing to scale, with the use of simple instruments being added to it in every case?—Yes, and model drawing in the senior classes.

18808. In the inspection do you look at the work the children have done during the year?—Yes, in some cases, for instance all the copy books the children have written during the year are to be presented to the inspector.

18809. But I am speaking of drawing?—Not in the case of drawing, but in the case of needlework, the worked articles have to be submitted to the inspector at the examinations.

18810. You said you approve of the programme of handicraft laid down by the Board?—Perhaps simplified a little.

18811. Don't you think the complicated nature of it may have led to the opposition in the giving of manual instruction?—It may have.

18812. Is it not rather a utilitarian programme than an educational?—It seems so.

18813. If you take the first year they start by having to be all expert in a number of tools, it depends on the meaning you give to "expert," but it looks as if they had to be trained carpenters at the end of the year?—Yes, there is another suggestion I have to make, for young children I believe tools specially made for children should be used; it is absurd to see a child of ten or eleven trying to work with a big saw, or to move a large jack plane along a board.

18814. Then when you get the second year's programme it is still more complicated, have they have got to be not only carpenters, but glaziers and painters?—That programme should be revised and modified considerably.

18815. Do you think there would be some opposition on the part of the teachers if they saw a course of manual instruction which was merely educational, which trained them in accuracy, taught them to appreciate the use of drawing and to apply it in practice?—Yes, I believe they would adopt it most readily than they would adopt that programme.

18816. When you say you would recommend that it should be taught in training colleges, would you prefer to have it in the training colleges or the practicing schools attached to the colleges?—I would have it at both.

18817. In the training colleges students might become proficient in the use of tools themselves?—Yes, and in the practicing schools that they might see how it was taught.

18818. That they might see the object of the instruction and learn that it was not to turn out carpenters or craftsmen, but assist in the general education of the child?—Yes.

18819. Is needlework taught somewhat in the same way in the school as drawing, the children are put down to sew and the teacher goes to something else?—As a rule the teacher supervises the needlework during the time.

18820. But it would be possible for her to set students down and let them work away for an hour?—It is quite possible, but I don't know that it is done, she has nothing else to do during that time, the needlework is compulsory for an hour each day.

18821. And they do nothing except the needlework?—Except the needlework.

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John Mason,
Secy.

18832. Is it your opinion that five hours is the least that can be devoted during the week to it?—I would not be very positive in that, I think three hours would do.

18833. The main reason urged for giving five hours is that it takes so long giving out the material and putting it back again, if you gave one-and-a-half hours each week you might get as much done?—You might.

18834. Perhaps one-and-a-half hours is a little too long to keep children at one occupation?—Yes.

18835. Sir Joshua Fitch told us that sewing was compatible with complete mental vacuity, do you think that is so? What do the boys in the town schools do in the place of agriculture?—Sometimes they have book-keeping, of course they have book-keeping in rural schools also, and sometimes extra lessons, geometry or algebra.

18836. You say "sometimes," is anything held down as a necessity to replace agriculture?—No, not in town schools.

18837. Then apparently they have more time at their disposal for extra subjects in town schools than in rural schools?—Yes.

18838. Is it a common practice to give home lessons to all the students in all the schools?—Yes.

18839. Do you know how much time a day is devoted to it?—Probably one-and-a-half or two hours in the evening, they learn their lessons at home, and they are examined next morning by the teacher.

18840. That extends the school hours practically?—Practically it does.

18841. Don't you think they would be better employed if they were kept in school, suppose the home lesson was learned during the time for drawing and one hour put on for drawing?—I think the home is long enough now. Probably the children themselves prefer to chase their own time at home for learning their lessons.

18842. But do they learn them as a matter of fact?—I believe they do in most cases.

18843. Then as regards extra subjects, are they generally taught?—Geometry and algebra are pretty generally taught to fifth class, first and second stages,

and first stage, sixth: they are not paid any results for them in any lower class.

18844. Do you think the arithmetic which is taught might be modified with advantage?—I think it might.

18845. And the demands for reading in the upper classes, do you think they are excessive or unnecessary for the general education?—I think reading is extremely desirable, and I would not like to have it curtailed.

18846. But the class of reading you have in the sixth class, do you think a child could do with less of that? They are supposed to know and explain the whole of those lesson books, able to read and explain?—Yes.

18847. CHAIRMAN.—Since the Compulsory Education Act was introduced into Belfast has it been enforced really?—It has.

18848. What effect has the Act produced?—Very beneficial effects; there have been recently a great number of prosecutions under the Act.

18849. Do the parents in general show willingness to yield to this Compulsory Act?—I am not quite sure, but I think that there is no great opposition to it on the part of the parents.

18850. Captain SHAW.—At what age can children be taken into the factories here?—At the age of fourteen, or they can be taken in between thirteen and fourteen, if they have a certificate from the inspector that they have passed into the fourth class.

18841. Mr. SMITH.—But not under thirteen, not even as half-timers?—Yes, they take them in as half-timers at eleven, in a large number of our schools there are half-timers.

18842. CHAIRMAN.—Has the school accommodation in Belfast been found sufficient since compulsion was introduced?—It is amply sufficient in most cases.

18843. Mr. McLAUGHLIN.—Has there not been an increase in the average attendance of the schools owing to the results system?—Certainly.

18844. Have you any statistics that would show that?—I have not.

Mr. ROBERT BROWN, Teacher, Ballymacarett National School, Belfast, examined.

Mr. Robert
Brown.

18845. CHAIRMAN.—You are a National school teacher?—Yes.

18846. Where was your school located?—Ballymacarett, Colmer-street.

18847. What is the size of your school?—I have five assistants: my average is 210.

18848. Are we to consider your opinion on representative of the large number of teachers?—Well, I have been nominated by the Central Committee, and I believe that represents a large number of associations; at Congress they did not pronounce any opinion upon it, but a number of associations have done so since, and I believe that I represent a number of those associations.

18849. How many teachers would this Central Committee represent?—1,000 teachers altogether.

18850. Well, if you represent them?—Well, but I am sent here by the Central Committee, I did not say I represented all these.

18851. Mr. HARRISON.—The Central Committee of Ulster?—No, of the whole of Ireland.

18852. CHAIRMAN.—Is it your opinion that the time of the pupil in the National school is fully occupied by the present programme?—It is more than fully occupied, because the time we have at our present programme is not enough for us. There is no room in the programme stands for manual instruction. As the programme stands there is no room, in my opinion for anything being added to it.

18853. Would you not think it desirable to have manual instruction if room be found for it?—I cannot express any opinion on that, but I don't think it

would be desirable in my schools. I think manual instruction would be desirable if you had a proper place for having it taught and proper teachers.

18854. At what age generally do the children leave your schools?—Generally about twelve years of age, that is the highest, but 80 per cent. leave at eleven, I may say.

18855. Is their education sufficiently advanced?—No, sir, I won't say that their education is sufficiently advanced for anything excepting that it satisfies the Commissioners, and then they can get a certificate that they have passed in the fourth class, that I suppose satisfies their parents.

18856. But you don't consider the Commissioners are sufficiently competent authorities?—Excuse me, sir—we give what will satisfy the Commissioners, we hope that they will be harder to satisfy in future.

18857. Of those that remained beyond that would many remain to fourteen years?—Not with me. I don't know that I have any remaining to fourteen, except members, or thirteen even, well, thirteen would be the highest, and a very small number would remain until that time.

18858. Of course we cannot say anything about adding manual instruction at present, but if proper accommodation were provided and qualified teachers were supplied, could you make any proposal as to a change in the programme that would find time for giving such instruction?—If you have proper teachers and proper places for teaching them, the only change that would be required would be to allow children to leave the schools and go to those places.

18859. Oh, yes, but we would mean, say, an hour or half an hour on each day of the week for this instruction, the rest to be literary!—But for your literary instruction at present your time is too short, for now, this month, commences explanation in reading, a most useful thing, but we have not time to do it, and we will have to curtail something else.

18860. Could you not curtail in grammar and geography without any real practical loss?—Yes, I could curtail in grammar by abolishing it nearly altogether in the way it is taught at present.

18861. I hope you are not teaching it as badly that you would abolish it!—We are teaching it as we are required to teach it.

18862. Mr. HARTWELL.—Off by heart!—No, but our principal time is occupied in parsing.

18863. CHAIRMAN.—You would give less parsing!—Yes, sir, I would.

18864. We would be greatly guided by the opinion of an experienced teacher like you!—I think grammar ought not to be abolished, but it should consist more of simple analysis and understanding of the meaning of the sentence, and especially in the correction of vulgarisms.

18865. Do you think would children in Belfast attend continuation schools?—Well, sir, I think they would.

18866. That is the only time apparently that you could have for this instruction!—I think they would, that is those that would think they would benefit by it, but there are a great many children who would, perhaps, think they would not benefit by it. I would like very much to see continuation classes, for it would be some place for young people to go to in the evening instead of spending their evenings as they do now.

18867. It was stated to us in Liverpool and Birmingham and elsewhere, that by taking half an hour from the literary subjects for cooking and laundry for the girls, and for woodwork and model work for the boys that really the literary instruction did not suffer, that they came back to it with a fresh zest!—I would not like to contradict that, that is the opinion of every person in England!

18868. It was the opinion of every person that appeared before us in Liverpool, Birmingham, London, Cardiff and Bournemouth!—I have been reading that book that Mr. Sudler presented to the House of Commons lately, in that book was the last report of the Science and Art Commissioners, and I think there is some person here who says differently from that. Mr. Shaw, inspecting on certain schools, says, "The taking of two hours for manual instruction from the time available for literary work will certainly reduce the literary attainments of pupils in these schools."

18869. CAPTAIN SHAW.—Do you know to what schools that applies?—Grammar schools.

Mr. SINGH.—And he does not say it has reduced, he says it will reduce, he prophesies. We want a statement that it has reduced.

18870. CHAIRMAN.—Is drawing taught in those schools?—Drawing is taught to all the pupils in the school from third class up.

18871. Is construction taught?—No, sir, because it is connected with French, and no students coming to me will take it up.

18872. Do you teach any elementary physics?—No, sir, unfortunately, I don't.

18873. You have no means of giving experiments, I think!—There would be means enough if they were required.

18874. What changes in the programme would you recommend for boys entering commercial pursuits?—I would have them certainly that they were able to write well, that they were able to do book-keeping, and do a considerable amount of mercantile arithmetic, that is shopping arithmetic as has been said, and if it were possible, but I don't know if it would be possible, I would try to give them some of the languages, such as French or German, I think if that could be attained it would be a great matter.

18875. Is kindergarten largely taught in the

schools here?—I don't know, I have no experience, I don't teach it myself.

18876. CAPTAIN SHAW.—You were good enough to quote from me just a minute ago, do you know that those remarks applied to organised science schools?—That may be, I don't know.

18877. Do you know that those schools are required to have thirteen hours in the week of science instruction besides literary work?—At any rate he says two hours for manual instruction must be taken off their literary instruction.

18878. Do you know that there are only eight hours left for ordinary literary work in those schools, and the remark made was that two hours deduction from those eight would diminish the literary instruction?—Any person would have prophesied that, but is manual instruction taken up much in primary schools in England?

18879. In the primary schools in all the large towns it is!—In that report we have manual instruction included with thirteen other subjects, and it says there were only 1826 pupils examined in the whole fourteen subjects.

18880. Those are specific subjects, manual instruction is not a specific subject and would not be in that return as it is examined by the Science and Art Department. Those are specific subjects taught in the elementary schools, but not under the Science and Art Department!—Do I understand that manual instruction is not taught under the Science and Art Department?

18881. It is, in England, as a matter of fact, at present, and is not included in those figures!—Then it would not be included in the primary schools.

18882. But it is taught in the primary schools!—Well, but if we teach under the Science and Art Department in the primary schools the Commissioners take no notice of it. I have taught under the Science and Art Department many a year, and the Commissioners of National Education took no notice of it except to ask what money I made by it.

18883. You think that both the method of inspection and the subjects of instruction might be modified?—I think the subjects of instruction might be modified; I don't wish to say anything about the method of inspection.

18884. Without the child's general education suffering?—In fact I believe the child's general education would be benefited.

18885. You make the remark that "a good general education is the best foundation for a good technical education"—I think so.

18886. Kindly give us your views as to what would be a good general education?—I think to be well able to read, to understand when they do read, and to have a fair knowledge of commercial arithmetic and to be able to keep accounts readily and fairly, and have a general intelligence would be what I would call a good general education. I would have drawing from the first and drawing to scale, and I would think that a person who had done so would have a good general education.

18887. I suppose a good general education would include a certain command of the hand, neatness, accuracy and constructive ability!—But these can be got in school. By manual instruction, I understand cutting of sticks, and using saws and hammers, and modelling in clay, and I don't see either the time or the necessity for it, manual instruction or dexterity is not thought so much of as it used to be, we have improved tools and machinery. I have never heard of any person complaining that with their hands they were not able to get on well, but many persons have complained to me that they did not get as much education at school as they might and have suffered all their lives.

18888. Don't you think although they may not perceive it there is a necessity for a general training of the body as well as of the memory?—I believe so, but I fail to see how we are to generally train the

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body by introducing the saw and hammer into schools. What are we to do with the other children?

18889. Nobody ever contemplated that one teacher with sixty or seventy children should have manual instruction stuck on to the top of his other duties!—I must say I am a little labouring in the dark, because I don't know what is intended by manual instruction. I don't wish to be against it, because I believe manual instruction is necessary for some people at least, who will be applying themselves to trades, but I don't see how it is to be taught in our schools without there is a revolution and there are schools built and proper teachers.

18890. You agree there is no use in teaching a subject unless you have a proper teacher and proper methods of teaching?—I think so. I am sure you will agree with me in that.

18891. I think you advocate the teaching of drawing?—Very much.

18892. But that is manual instruction to a certain extent?—It is, and so is needlework.

18893. It also, if properly taught, is a good training in observation, of which sometimes people are lacking, and after they have received their education, training in observation is also useful?—Yes.

18894. A great many people go through the world without using their eyes?—The more they can be taught to use their eyes the more generally apt they would be at anything.

18895. Would you advocate the teaching of drawing as far as it comes in for sketches for models or for practical purposes?—I don't know anything about model drawing, but certainly, for practical purposes, I would have practical geometry.

18896. Would you think it practical training if a child is taught to draw the plan and the elevation, or working drawing, of some object, and that he should execute it in some manner afterwards?—Well, if he had someone to direct him perhaps it would.

18897. You also wish a course of elementary physics?—Oh, certainly.

18898. You would advocate that being taught practically, I presume?—I would, indeed.

18899. And with experiments?—With experiments. Books are very useful, but the teaching without experiments is not very satisfactory.

18900. That is a great training in observation and also reasoning to a certain extent. If properly put before the children, would you advocate the teaching of these throughout the classes, from first class upwards?—I don't know about the first class. It takes a considerable time to teach reading mechanically, and until we have it taught mechanically explanation is no use.

18901. But you can give object lessons over to very small children?—I suppose object lessons even to the first class would be useful. They could not do any harm.

18902. And they might be made scientific without bringing in difficult words which a child cannot understand. You say Euclid and mensuration should be considered separate subjects?—Yes; I think so.

18903. Would you put mensuration in with geometry and make it part of geometrical drawing?—I would not. I would make mensuration a separate subject, because I find it is very useful in Belfast.

18904. Part of a course of accurate training in measurement, perhaps?—Well, I would use the ruler and you could measure things—everything that happened to come in your way—totally measure it and do it as practically as possible.

18905. Mr. STRANDBERG.—Is not that practical geometry?—Yes.

18906. Then why do you wish to make it a separate subject?—Because practical geometry sometimes takes something more in than that. Our fault is we want to make our subjects too extensive. Instead of getting a little well, we have a smattering of a whole lot of things.

18907. Do you teach agriculture in your school?—No, sir. Well, I did teach agriculture. Of course, people said I only taught it for a fee in Belfast, and I was not able to say they were wrong, and consequently I gave it up. One thing I found was I had two readers instead of one, and I believe it was useful in making good readers.

18908. Would you approve of reading from unseen passages?—Yes, if I could get an unseen passage that was not more difficult than the book they had been reading in, but if I get a passage from an unseen book I am afraid of it. Here is one out of our Fourth Book—"The immediate and continuous application of cold, by the employment of irrigation, will prevent much effusion into the injured joint, and also the occurrence of acute inflammation." That means the application of a wet cloth to a sprain.

18909. For pupils of what age?—Between ten and eleven.

18910. Let me see if I understand your position. You would have elementary physics taught in schools?—I would.

18911. And although you have not fully considered the question, you would begin that with object lessons in the junior classes?—That is a point I have not considered.

18912. But on the general principle you are agreed that in an ideal scheme of education you would have elementary science with experiments taught practically to the children?—Yes.

18913. For what purpose?—For the purpose of awakening their imagination and making them generally attentive.

18914. Making them more observant and training their reasoning powers?—Yes, and letting them see the reason of things.

18915. You would also teach drawing?—Yes.

18916. For a similar purpose?—Training their observation and accuracy.

18917. But at present you only teach freehand drawing, do you think that that gives all the training in accuracy that might be had?—I won't say all the training in accuracy, but I say unless we can draw freehand well, the other drawing would not be very well done.

18918. Don't you think a person can draw with scale and compasses who cannot do freehand at all?—If you give them a scale and compass, perhaps they could, but I don't consider it drawing.

18919. It is generally called drawing, but why should that form of drawing be postponed? I think the pupils are perfect in freehand?—I don't know.

18920. Don't you think it might be introduced at a comparatively early stage in the child's course?—Perhaps it might.

18921. And I think you said already that this drawing to scale and for plan and elevation might be made more intelligible to the children if they made objects from these drawings?—I said it may be so, but I did not give an opinion of my own with regard to it.

18922. Does not that seem a reasonable opinion, how are they to understand the meaning of plans and elevations, unless they make the object or see the relation of the object to it?—They draw from plan and elevation with me, and I don't see when I can take them away to build up what they have drawn.

18923. It would be a very simple thing to build up the structure of which they had drawn the plan and elevation with square cubes of brick such as they have in the kindergarten?—Where am I to have that?

18924. I am merely inquiring as to the possible scheme of education?—Oh, yes.

18925. Then both elementary instruction in science and in drawing are, in your view, parts of a good general scheme of education?—Yes.

18926. But you have strong objections, as far as I can gather, to manual instruction?—I think I

explained what I understood by manual instruction, carving in wood and modelling.

18937. Have you read the evidence we received in England?—I read some of it.

18938. Does not that give you rather a different idea as to what is commonly understood by manual instruction?—No, I have not got a good idea of what you mean by it yet, perhaps that is my stupidity.

18939. The only plan I can recommend to you is to study the evidence we received in Birmingham and London?—Excuse me, I did not see that evidence at all, but I understand that in Liverpool, where they have manual instruction, it is not in connection with primary schools, they have some outside places where they can send seventeen or eighteen children.

18940. Have you read the evidence we got in Liverpool?—I have not.

18941. Then, from what do you understand that this manual instruction is not given in the primary schools, you say you understand that that is the case?—Well, I understand that is the case.

18942. From what?—From a teacher that belongs to Ireland, living in Birkenhead, when I was making all the inquiries I could as to how it was taught.

18943. And although you were making all the inquiries, yet you neglected to read the evidence we obtained?—How could I read it, I did not know of its publication.

18944. Then, you would not be surprised to learn that manual instruction is given in everyone of the Liverpool primary schools, board schools?—It would be a surprise to me, because I understood differently, I did not know of this evidence at all.

18945. If you read that evidence you will find that it is a fact that manual instruction, using it in the broad sense of the word, is given in all the Board schools of Liverpool, and not merely in the higher schools, but throughout the schools, of course in different forms, simpler exercises in the lower standards, more advanced in the higher.

18946. But, in any case, you are agreed that elementary science and drawing should be part of a good general education, and if you saw evidence to make you think that manual instruction—I am using the word in its broadest sense—was only instruction of the same character as the drawing, tending to train accuracy and observation, you would be inclined to include it in your general scheme of education?—I think I ought to include everything that would lead to a good general education.

18947. You must understand that manual instruction should not be confined to using the saw, plane and hammer, but applies to any form of work which trains the hand and eye. Then in order to get this good general education that you spoke of, you would modify the present system somewhat?—I would.

18948. For one thing, I gather you would teach reading in a more sensible way?—Certainly, but we must have more time to teach it.

18949. At any rate you would have it taught in a different way to what it is at present?—I would.

18950. You would have much simpler reading books?—Yes.

18951. You don't believe that such a passage as you have read to us could be understood by a child of ten or eleven?—Certainly not.

18952. And although you had ten hours a day to teach that child that book, you never could make it understand it?—It would make no difference.

18953. So if you want to teach children at that age you must have a simpler book?—A simpler book.

18954. And if they had a book that they could understand, they might read a good deal more?—They might read a good deal more, but I think I would have less reading, and let them understand what they read.

18955. Don't you think there is a certain advantage in getting a child to read a great deal, provided it is matter within his capacity?—I do.

18956. And from that point of view the test of

useless reading would be a very fair one, provided you are certain the passage is not more difficult than in the books from which he has been reading?—I think so.

18957. You think more time might be saved in the instruction of arithmetic?—Certainly, by a change in the method of teaching.

18958. You would teach it in a more practical way, teaching quickness of calculation?—Yes, quickness and accuracy.

18959. And explanation of the principles?—I would explain the principles to a certain extent.

18960. I mean so that the children did things intelligently, and you would consider that more important than questions in allegation and finding geometrical means?—Yes, I don't see what use they are.

18961. If you had reading and arithmetic, the two principal subjects in an ordinary school course simplified in this way, then you would find time for the development of practical instruction?—Certainly.

18962. On the lines you have already described as part of a good general education?—Yes.

18963. You mention at the end of your memorandum that you would have boys intended for commercial pursuits instructed in a special way, they should be trained in quickness and accuracy in calculating ordinary commercial transactions, commercial geography, including the great industrial centres of the world, exports and imports, weights and measures, the money values of the different countries, commercial letter-writing are all of considerable value, would you have that taught in the ordinary day school?—The children who are going to commercial life.

18964. But then all the children are not going to commercial life, and a great many apparently leave at eleven years of age, and of those who remain after that age it does not follow that they are all going to commercial occupations?—Not all.

18965. So it would be a mistake to teach this programme to all the children of the upper classes of a day school?—It would in the same way as it would be a mistake to teach manual instruction.

18966. Excuse me, we have agreed so far as we have discussed the matter that the manual instruction contemplated was to be part of a good general education, nothing further, it is not meant to train a boy to be a carpenter or for any industrial pursuit, but merely to train his intelligence and power of observation and sense of accuracy. This special commercial programme would not be suitable for every boy in the upper classes?—No.

18967. Would it not then be desirable to have it taught in an evening school?—It would.

18968. In fact all special subjects, which are not part of a good general education?—In continuation schools.

18969. For those who choose to benefit by them?—Yes.

18970. Have you any idea how these evening schools should be encouraged, we understand evening schools are not common in Ireland?—They are very uncommon.

18971. What is the reason for that?—I don't know, but one reason may have been that persons who did attend evening schools when they were more common, did not attend for instruction, but came for amusement, and consequently people were obliged to close them, I know that was the reason why I closed an evening school.

18972. What did you teach there?—It was a long time ago, and I taught the ordinary subjects taught in the day school.

18973. Of course Ireland has made considerable progress in education since, I fancy?—It has.

18974. And you might find now a class of pupils who would come to evening school to learn something?—Yes, I am aware that in Belfast a considerable number of people are attending evening schools.

18975. Have you thought of any step that might be taken to encourage evening schools? What do you

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think might be done to encourage the starting of evening schools?—First of all where would be the teachers, would it be the teacher of the ordinary day school, or any special teacher.

18964. Where the teacher of the ordinary day school could teach any special subject he would be a very suitable man?—No, I have not thought of any special way in which they could be encouraged.

18967. Mr. HARRINGTON.—We are anxious to know the opinion of the teachers in reference to this subject, you have given us some of your views, may I ask were you authorised by the Central Organization to give evidence here?—They selected me to give evidence.

18965. How were you selected may I ask?—Just by a resolution of the Central Committee.

18966. At the Congress?—No, not at the Congress, there is a committee meeting in Dublin twice every quarter and there was a resolution passed that certain members of the committee would appear before this Commission if they required them and give evidence.

18970. So that we may take it that your views represent the views of the teachers of the district?—I may say that my views represent the views of the Belfast Teachers Association, and also of the whole of the teachers of the county Derry.

18971. And at the same time you admit you have not had any actual experience of this manual instruction?—No, sir.

18972. You have not seen it taught?—I have not seen it taught.

18973. Have you read any works on the subject?—I have seen a person from Ribbleshead showing what was done with the knife and change of that sort, he was over here in the Ulster Hall, and that gave me an idea of what manual instruction was, that it was making things with a knife.

18974. But you have not seen this manual instruction carried out in any of the English schools?—I have not.

18975. Have you read any works on the subject?—Well, no, not particularly.

18976. So that we may take it that the experience you have had, or rather have not had, is the experience of most of the other teachers in that respect?—I should say there are a great many in the same position as I am, but there may be exceptions.

18977. I suppose the school children of Belfast go principally to manual occupations when they leave school, the great bulk of them?—The great bulk of them go to manual occupations, but when they leave school I don't know to what they go, a great many girls leave after fourth class. A great many boys go to the rope walk.

18978. But they are manual occupations, not literary?—A great many of them go to manual occupations.

18979. Do you consider the teaching, as it is in the schools at present, is sufficiently practical, do you consider it is too literary for the needs of the ordinary children who go to your schools?—I don't think it is half literary enough to do them any good.

18980. Have you any means of knowing whether the parents of the children or the employers consider that the teaching in our schools is too literary and not sufficiently practical?—I don't know that, I think employers think, so far as arithmetic for instance is concerned, although our pupils may be able to do hard sums in some of the rules, they are not able to do little sums in shopping arithmetic.

18981. We have found in other places that many people, parents and employers, think that our system is too much learning things by heart, and that the children are not taught sufficiently how to think and use their brains?—I think it is the results system in Ireland that has been the cause of that to a great extent.

18982. I think you said that a good many children leave at eleven, these would be the half-timers who go into mills?—They leave me at eleven and I have no half-timers.

18983. How would you suggest that should be stopped?—A law should be passed that they should not leave school until they had passed the second fifth, which would be thirteen years of age.

18984. Supposing they passed the stage at twelve years of age, is it the age limit you would have, if you could get the exact literary training at twelve?—I have seen it in Scotland, where a boy who left at twelve ran about for a year.

18985. Mr. SECRETAN.—If a child passed the fifth standard, leaving the standard at twelve, he is presumably a cleverer child than the average?—Yes.

18986. Would it not be better that that child should remain at school for another year, would it not be better that there should be an age standard of thirteen?—I think so.

18987. Mr. HARRINGTON.—Suppose compulsion of this kind was introduced do you not think that employers of labour would strongly object?—I don't think so, some of them may do so.

18988. Mr. MULLER.—You mentioned that you represent the Central Association of teachers, do you also represent the views of the Belfast Association?—I do, I know.

18989. Did you say that about 7,000 schools were connected with the Central Association; there are, in all, about 14,000 teachers and 8,500 schools?—I said 7,000 teachers.

18990. May I ask have you experience of school work anywhere but in Ballymacarrett?—I have been all over the country.

18991. And you have been to my personal knowledge a long time in Ballymacarrett. I am surprised to find a statement in your memorandum that the children leave school at such an early age as eleven?—They are leaving it sooner since the Compulsory Education Act came in.

18992. Evidence has been given that the attendance has improved?—I believe that is so, but the fact is now when the pupils can get a certificate and are relieved from attendance the senior pupils are not staying with us nearly so well.

18993. Are there any special facilities for getting employment for that class of children in the neighbourhood of Ballymacarrett?—Oh, yes, I don't think there is any other part of Belfast in which there are such facilities.

18994. So that that departure at the early age of eleven may perhaps be regarded as a special circumstance connected with Belfast?—It may be regarded as a special circumstance connected with Ballymacarrett; but, notwithstanding all that, I think the special circumstances are not all, because parents send children to earn money when they can do very well without it.

18995. Are you generalising from that particular instance, when you dwell, in your memorandum, on children leaving at eleven?—From your own reports there are not 20 per cent of children over fifth class.

18996. You think that until the present results system is modified no attempt should be made to introduce manual instruction; have you any special views as to the direction in which the results system might be modified?—I think I have.

18997. I think your expression a while ago was that literary instruction did not do much for the children at present?—I think not.

18998. And you have thought out some plan independent of manual instruction by which their literary progress might be stimulated?—First of all I would abolish individual examination, and if a fair percentage passed I would pay for all. I would give the teacher the liberty of classifying his children as he thought was fit, making regulations that if that were liable to abuse it could be rectified. I would have an easier programme and require it to be better known. I would modify the reading books. I would have less arithmetic, and I would have such as would be used

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is shown. Some people would say abolish the results system altogether, but if it is not to be abolished it must be modified in that way if we are to have any education.

18959. Has not the teacher comparative freedom of classification at present, he is under no obligation to put a boy forward from one class to another every year?—But a boy may be able to go forward in one subject and not in another, besides it is a difficult thing to keep him back if you wish to retain the child, schools are so plenty and people think a child should not be kept back.

19000. That might be the fault of an excessive number of schools?—It is not the fault in Ballymacarret, for we have not school-room enough.

19001. Does your recollection extend to the state of instruction in National schools prior to the introduction of the results system?—It does, ten years before that.

19002. Then you can speak with some degree of authority on that subject?—Teachers then had a very free hand as regards classification?—They had a little too free, they kept them perhaps a little too long. I think I said I would have modifications, I think that was the great fault, but I think it was a better system of education by far than we have at present only for the one thing.

19003. And in place of individual examination of which you disapprove you would prefer class examination?—I think I would like class examination, and if a fair percentage of the pupils passed then that would show how the school was taught.

19004. If the subject was shown to the examiner to be carefully taught, the entire should be paid for?—I think so.

19005. And, so far as possible, all the pupils on the rolls should participate in that examination?—There is a great fault at present, there are a great number of pupils never examined at all, for instance, I see by your report that 29,000 in 1886 who have made 100 days attendance have not been examined at all. But there will be far more than 29,000 who have been struck off during the year and won't appear on the rolls, so there must be nearly double the number. For instance, I know a teacher with 180 children and thirty-three were struck off the rolls and do not appear although they had made 100 days attendance.

19006. Mr. STRATHFORD.—They had gone to another school?—Yes.

19007. Mr. MOLLAY.—Having had experience of the two kinds of programme, which would you prefer?—On the whole I would rather have the former one.

19008. But the former one did not carry with it £280,000 per annum of results fees?—Oh, no.

19009. And if the £280,000 could be retained you would prefer the former system of examination?—I think that is a difficulty, I would prefer it to be retained, but I would like to have it paid something as it is paid at present.

19010. Partly by salary, partly by the examination of the pupils; have you ever toward your attention to the propriety of having graded schools according to the degree of efficiency of the conductors?—That might be, but I would like to have uniformity among the inspectors. One inspector said he would call eighty excellent, and under sixty pay nothing, another inspector said for seventy-five, excellent, and under fifty, bad, and until you can do something with regard to uniformity I am afraid of graded schools.

19011. Mr. STRATHFORD.—You would have the inspector pay more attention to the method of instruction as well as to the results?—Yes.

19012. Mr. MOLLAY.—One of the difficulties about manual instruction is the absence of proper accommodation?—Yes.

19013. Then if the thing was to be introduced at all it should be in continuation schools, and in a special department, and under specialists?—Yes, under special teachers.

19014. And the teachers at present in office would

receive instruction from these itinerant specialists as well as in the training colleges?—Yes, I suppose any way at all that the teachers could receive it, but I would not have the itinerant teachers coming to the school, it would take the whole staff keeping order.

19015. And then the specialist, if at all introduced into the school, should come at an hour when the ordinary business would be over?—Yes.

19016. You were asked a question on the subject of evening or continuation schools; at one time in Belfast there were very numerous, you gave one reason?—I gave my own reason, that may not have been the original reason, but I gave the reason why I gave it up.

19017. I have personal knowledge that at one time in the Belfast district alone there were twenty-seven evening schools, unapparently we have only thirty-five in all Ireland at present?—I don't suppose there is more than one in Belfast, the Model school.

19018. You have not kindergarten in your school, what is the difficulty about introducing it?—I don't know, the greater part of the information I can get is that it is not useful.

19019. Is that based on any personal knowledge?—No personal knowledge of my own, merely reports I have got, but perhaps I have not understood those reports just as well as I ought to have done.

19020. Mr. HARRINGTON.—This is not from the gentleman in Birkenhead?—No. Mr. E. J. Barton, I think he is one of the Head Inspectors in England, says "many teachers hold the opinion that the kindergarten drawing in the infant school rather than being an assistance to the work of the standard, is a hindrance, much labour being required to eradicate the faulty method of using the pencil which has been acquired. As far as my experience warrants an opinion I am inclined to the same belief."

19021. Mr. MONTAGU.—Do you not see that is refuted there specially to kindergarten drawing and not the general kindergarten instruction?—You see I talk about kindergarten, and having no personal experience I thought kindergarten consisted principally of drawing.

19022. It is much more extensive than that. What difficulty have you about the introduction of elementary science into your school?—I don't see any except that the Commissioners don't pay for it and don't want it, and I have so much to do in the subjects that they require that I have not time.

19023. But have they not a programme for physical science subjects on a very elaborate scale?—Oh, yes, but it is so elaborate we can only look at it, we could never possibly teach it.

19024. You think it is too difficult?—It would puzzle at a University examination.

19025. Have you any recollection of the time that Dr. Clarke used to lecture in the schools in Belfast in elementary science?—Yes, I often sat under Dr. Clarke, both in Ballymena Model school and Dublin.

19026. Did you not think those lectures were particularly useful?—I think they were particularly interesting, for I remember I waited until seven o'clock to hear them.

19027. If any revival of that system—not a very elaborate kind of science, and illustrated by experiments—if any revival of that took place would you be in favour of the introduction of it into your school?—I would, indeed. Such experiments as were conducted by him would be very useful and interesting.

19028. You think the reading books ought to be simplified—see you not aware that a manager has it in his power at present to submit, for the consideration of the Commissioners, a simpler set of books, provided there is no objectionable matter in the books?—Yes, I understand such is the case, but still, after all, getting the manager to select them, and purchasing the books, comes as to stick by the old ones, perhaps when it is not wise to do so.

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19029. And perhaps, also, the cheapness of the old books?—That has a good deal to do with it.
19030. And having them delivered at your doors gratis?—That is another thing.
19031. But you would be in favour of a simpler set of reading books?—Oh, yes; I intend, after my examination, which will be next week, applying for some of them; I have not decided yet which to take.

19032. Captain SHAW.—Do you include drawing and practical physics in a literary education?—Yes, sir, I do.

19033. You call them literary?—I call them literary, in a good general education.

19034. If we called these practical, you would admit there is a necessity for a good practical education?—Yes.

Mr. PHILIP WARD, Teacher, St. Paul's National School, Belfast, examined.

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19035. CHAIRMAN.—You are a National school teacher?—Yes, sir.

19036. Where is your school?—In the Falls district—St. Paul's.

19037. What are the numbers in attendance?—I have an average of about 350.

19038. What assistance have you in that school?—Eight assistants and seven monitors.

19039. You also, like Mr. Brown, represent the Central Committee in this case?—Yes, sir. I also take it that I represent the Belfast Teachers' Association, and in fact, I believe, two-thirds of the teachers of Belfast.

19040. I see you are opposed to manual instruction being introduced into the schools, unless there is some important modification of the present system?—Yes.

19041. What modification would you propose?—There are many modifications.

19042. So as to find time?—I don't think, after all, that the literary programme could be very largely modified; it can be modified in some particulars, but it could not be so modified as to afford considerable time for the teaching of any manual instruction in schools—any general system of manual instruction.

19043. In your mixed school?—Purely a boys' school.

19044. You think there ought to be a large addition to the teaching staff before anything of the sort could be introduced?—Well, I am not so sure; I don't know that a large addition to the teaching staff would be required—there will be some addition, I daresay, required—at all events in a great number of schools.

19045. Do pupils, in your school or district, leave at as early an age as Mr. Brown has told me?—Oh, yes, about the same time. Referring to that, I consider one of the reasons why so many children now leave school at that age, is that, since the introduction of the compulsory system of education, they obtain a certificate when they are eleven years of age, and they can walk the streets if they like, and no person will say anything to them, provided they can produce the certificate; they will not get employment in the mills or factories, but if they have passed the standard they can walk about.

19046. Is it a fact that because children can walk about, and yet cannot get employment, that they prefer to walk about to improving their education by staying further at the school?—Yes, a great many do, and they obtain situations in shops and running messages, and so evade the Act.

19047. Do you approve of the results system?—Not as at present carried on.

19048. What changes would you make?—I would go to, as Mr. Brown has stated, for class examination, but I would not be in favour of examining all the children on the school roll. I think it would be very little use in examining a child who had been only a fortnight or even a month at school.

19049. Have you ever seen kindergarten at work?—Well, I have not. I have read a good deal about kindergarten—yes, I did see it at work in the Infant Department of the Belfast Model school.

19050. You never have seen manual instruction given in any of the English schools?—No, sir, I have not.

19051. Mr. MOLLOY.—Prior to your commencing in St. Paul's school, I think you were the head master of a very large school here in town—St. Mary's?—Yes.

19052. Had you any experience, at any time, of rural schools?—No, except as a monitor.

19053. You referred, just now, to the Factory Act—is there any change in the regulations of the Factory Act from what appears in the Commissioners' report?—I don't think there is.

19054. By those the pupils ought to have attained, in order to get a certificate, a standard of proficiency in reading, writing, and arithmetic, equal to about fourth class?—Quite so.

19055. That is a pretty advanced one; you mentioned that in your school you have an average of 350, and you have eight assistants—I don't think you can complain of insufficiency of the teaching staff?—I am not complaining of it.

19056. But you refer in your statement to the smallness of the teaching staff in three-fifths of the National schools of Ireland, do you mean by that that you desire to see a change in the average number qualifying a school for the services of an assistant teacher?—Oh, yes.

19057. Or are you in favour of an increase in the monitorial staff?—I am not, I am in favour of a decrease of the monitorial staff.

19058. Your ideas with regard to manual instruction is, that it ought not to be introduced except in continuation classes; do you mean by those the ordinary evening classes?—I don't mean the ordinary evening classes as heretofore existing, but evening classes that would be more sufficiently interesting to the children to induce them to attend, and in which such instruction could be introduced and carried on.

19059. You think the primary schools ought to lay down a safe foundation for a genuine system of technical instruction; in the Technical Education Act in force here in Belfast?—I am not sure, I think there is a technical school at all events in existence in Belfast; I think the Act does apply generally to Belfast.

19060. You say you are decidedly against the idea of introducing prominent handicraft employment. Where was that proposed by anyone?—I understand that there is a number of handicraft employments, a number of ways of using the hands; I object to all these ways, and, so far as I know, I don't think they could be suitably carried on in our primary schools.

19061. Ways of using the hands would hardly be expressed by "prominent handicraft employment." Have you not stated that a little too broadly?—It would all depend on the number of ways in which it is proposed to use the hands in the school.

19062. For girls, I suppose, needlework and cookery?—No, I refer chiefly to boys' schools. So far as girls are concerned, I never heard it asserted yet that the amount of manual instruction which girls receive as hand and eye training or handicraft, made them more intelligent than they were, if they were not employed as thus needlework, that is tended to make the girls smarter or more intelligent. So far as I know, I don't consider that handicraft really tends so much as is generally stated to make boys smarter or more intelligent.

19063. Well, the number of schools throughout Ireland in which handicraft is taught as a special subject happens to be only fifteen, and we were told by a previous witness that not more than two of these are in Belfast, so that the amount of experience up to the present could not be very extensive. You see no objection whatever, but rather the opposite—you say kindergarten ought to be encouraged and developed?—Yes, I hold that opinion.

19064. And particular attention paid to drawing?—Yes.

19065. Including drawing to scale?—Yes, I would add drawing to scale in the higher classes, and even perhaps drawing from easy models and the use of the ruler.

19066. And perhaps that measurement should become a separate subject?—Oh, decidedly; it is, so far as I can learn, in the English primary schools.

19067. What are your views about the introduction of itinerant teachers into the schools of ordinary teachers, who are not themselves qualified to give instruction in special subjects?—I would be entirely against bringing itinerant teachers into the schools to teach any subjects. I think whatever is taught in the primary schools should be actually taught by the ordinary teacher.

19068. These other subjects, then, should be taught in continuation or evening schools under special teachers?—Yes.

19069. You also advocate the propriety of teaching elementary science chiefly by experiments?—Yes.

19070. Are there many schools in Belfast where that is carried out?—I am sorry, but I don't suppose there are many at present.

19071. You heard the interesting evidence of Mr. Brown about his experience of the good effects of Dr. Clark's lectures?—Yes, they were before my time.

19072. Your idea is not that the present results system should be abolished, but that it should be greatly modified; now would you briefly indicate the lines of the modifications?—I would have, as I stated already, class examination, but I would modify the arithmetic programme considerably, and I would modify the geographical programme considerably, and also the programme in grammar, and I would make geometry and mensuration far more simple than they are, and algebra.

19073. In view of the time gained by these modifications, to which you have referred, what subject would you introduce for choice?—I am not sure whether I could advocate the introduction of any subject until I saw the amount of time at the disposal of the teacher, to find out whether he really could teach anything additional or not, because of course our schools at the present time are worked at a high pressure, we are really kept busier than we should be, and the children are kept busier than they should be.

19074. Speaking generally for Belfast and its neighbourhood, what are the hours of attendance on the part of pupils?—I presume from ten to three; in my own school we begin business at half-past nine, and continue to half-past two, secular instruction, and from that to three o'clock, religious instruction.

19075. And you are not of opinion that that could be extended?—I think the hours are quite long enough for the ordinary pupils, and I think they are far too long for infants.

19076. I am glad to be able to give you information on that point. It is quite in the power of the teacher to dismiss the infants at an earlier hour?—It is a regulation that has never come under my notice. I would be very glad of that, because it sets free teachers who are engaged in the infant school, and who can be employed in the other school with advantage. I am of opinion also that there should be no such thing as independent infant schools; every infant school should form a department of the ordinary school, and for

this reason especially, that the staff could be set free for the ordinary school; in the case of an infant school, where it is entirely an infant school, that cannot be done, when the children go the staff may go.

19077. You would not have even a normal school for infants for the purpose of giving practice in the instruction of infants to certain female teachers, would you abolish that also?—Oh, no, if it is necessary that teachers should have special instruction in order to conduct infant classes, it should apply to infant departments as well as infant classes.

19078. Mr. HARRINGTON.—Are you a member of the executive of the local organisation of teachers?—I am.

19079. Could you tell us what steps did they take to substantiate what is meant by manual instruction before you were authorised to give evidence?—I don't know of any steps. I took no steps myself except what information I could obtain by reading reports and books on the subject.

19080. Might I ask what books or reports you read?—I have read that report, or a great portion of it, recently issued by the English Education Department, I have read the English Code, the annotated Code, and I have read the report issued by the Reeves Committee.

19081. Have you read the book which Mr. Brown was handed just now, the evidence taken by the Manual Instruction Commission in England?—No, not that, all that I have read of the evidence taken before you in England, I have read it in the newspapers, and so far as I could gather from that the great majority of those examined, so far as I remember now, were engaged actually in the teaching of manual instruction, but were not engaged in the literary departments of the schools.

19082. Are you aware that we had the evidence of the head masters of several of these schools, who all testified to the fact that since the introduction of this manual instruction it had been of great value, from an intellectual and other points of view, and that it increased the efficiency of the literary teaching in the school?—No, I did not know that you had very many teachers examined who were actually engaged in the literary work.

19083. You are aware it is universally employed in certain large towns in England, by the school boards?—Yes, I understand that it is used in a great number of schools, as far as I can gather from that report about one in every twenty schools.

19084. I think you say in your synopsis here that "Even if it were possible to have a satisfactory system of handicraft introduced into our National schools, which I do not for a moment admit, the want of technical schools in the country would render the work of the primary schools in this direction practically inefficient, as there would be no sufficient means available for following up the knowledge and perfecting the practice acquired in the primary schools." Don't you think it would help the introduction of technical education into Ireland if manual instruction were introduced into the primary schools?—If we had technical schools there might be some cause for introducing it.

19085. At present you admit there is very little hand and eye training in the schools?—Except what is given through drawing.

19086. Well, for a proper system of technical education don't you think that the cultivation of the hand and eye in the primary schools would be of great value?—I dare say it would, if we had those schools, but so long as we have not those schools I think the manual instruction the children would get would be more or less lost.

19087. But then the object of the introduction of manual instruction is to cultivate the hand and eye, one of the great objects of it, and also to increase the intelligence of the pupils?—Yes, that is stated to be the case.

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19088. If people who are competent to judge, and who have tried it, have found that that is the result of the introduction of manual instruction, would you not be in favour of it?—Certainly, if it is found to be the general result, but I don't think the system is long enough in working yet to be able to judge from it. The results system was a long time working in England before it was found out that it was a failure, and I believe it will be found out that the system that is being introduced generally now, that is the hand and eye training, or rather manual instruction, will not be so great a success as is imagined.

19089. You think it will be a failure?—It may not be entirely a failure.

19090. Are we to take it that you object to the introduction of it into this country?—I do, certainly, until I see my way clearly as to what its effect will be, that it will have salutary effects and be an advantage to the country. I may say at once that the teachers as a body are prepared to do anything they are asked to do, or that is imposed on them by the programme of the National Board, and will do their very best to carry it out, and are very anxious to do anything that will be for the advantage of the country, but from our experience we find it very difficult to believe that the introduction of this manual instruction will be the success that is predicted for it.

19091. As regards the school day, would you like to see the day divided into two separate parts in the large towns in Ireland?—I would not. There will be considerable time lost in calling the roll twice a day, to begin with, and when you allow the children to stay on for an hour or an hour and a-half in the middle of the day, it is sometimes difficult to get a reasonable number of them back again. If they are allowed out to play during half an hour it will give them an opportunity of getting some fresh air and will enable the staff to have the school ventilated and all that, and they can begin their business afresh again, but if they are out for an hour or an hour and a-half, in my opinion time will be wasted, and so it is not a plan to be advocated.

19092. One of the advantages that is claimed for it in England is that it brings the children home at meal time to their parents; don't you think that is an object of some value?—It may be.

19093. And that the children are able to have their meals comfortably at a suitable time in the day?—That might be an argument in favour, but we are considering now whether it would be educationally an advantage or not, and I doubt it very much.

19094. Do you think the parents would object to it or would like it?—I don't know that they would raise any objection to it or have any definite opinions on the point.

19095. Mr. STRUTTAN:—Let us take the points that you don't object to, I think you are in favour of drawing in the schools?—Yes.

19096. Would you have drawing taught generally throughout the country?—I would.

19097. And of course you are aware that many teachers at present have not the necessary knowledge of drawing?—Yes.

19098. You would have a special exception made in their case, I presume?—I would, but I would have them taught principles of drawing even as it is, and I would make it compulsory on every future teacher to obtain a certificate in drawing, and even perhaps I might go so far as to say that teachers under a certain age might be asked to go in for a certificate in drawing.

19099. And those who have obtained certificates should be asked to teach it?—Certainly.

19100. As regards the older teachers, would you be in favour of having classes in centres for their special instruction if they choose to attend them?—Yes.

19101. These older teachers might very well teach drawing to make and plans and elevations, even though

they cannot do freehand?—I think plan and elevation could be kept for the continuation schools.

19102. Are you aware that in Birmingham plan and elevation is taught to children in standard 2 one of the very lowest classes in the school. Then you are also in favour of hand and eye training so far as kindergarten employments are concerned?—Yes.

19103. You would be in favour of kindergarten?—Yes.

19104. You would be in favour of their being continued on a little further than they are at present?—Certainly, I would.

19105. In the third and fourth classes?—Well, object teaching might follow up after them in the third class, there might be a good deal more object teaching than at present from fourth class up.

19106. And of course drawing?—Oh, yes, drawing. 19107. Then you are aware that in kindergarten children make things, they do paper-folding, weaving, clay-modelling, and things of that kind?—Yes.

19108. You would have that continued in upper classes?—Yes, whatever would be thought necessary, but I would certainly like to see that the programme was a workable one, because we are very much accustomed in this country to a workable programme.

19109. I am merely getting your views of a reasonable scheme of education, supposing we had a suitable programme arranged you think these kindergarten occupations might be continued a little further than at present?—I think they might.

19110. You think they would be a useful part of the general education?—I do.

19111. But you object very strongly to manual instruction?—Yes, I formed my opinion chiefly from the manual instruction programme that has been published by the Board.

19112. You regard it as something entirely different from the kindergarten occupations?—Yes, I do.

19113. What do you suppose these kindergarten occupations are meant to secure?—I suppose observation, mental training.

19114. Training of the intelligence, training in accuracy?—Yes.

19115. Then what do you suppose the object of manual instruction is?—Well, I suppose that is the object, but whether really manual instruction will accomplish the object I am not so sanguine.

19116. It is not your idea that manual instruction means the use of carpenter's tools with a view to preparing a boy for a trade?—Perhaps not altogether with a view to prepare him for a trade, but very largely, certainly, to use tools.

19117. If you read this evidence you will find that manual instruction is employed in a general sense as being simply the continuation of kindergarten employments, necessarily increasing in difficulty at each stage. But you would not consider the preparing a boy to be a carpenter a suitable object of instruction in a primary school?—I would not.

19118. Nor any trade?—Nor any trade.

19119. And any manual instruction given in a school should be such as would form part of a good general scheme of education suitable for every boy?—It should.

19120. So that there may be in the higher classes some occupation analogous to the kindergarten occupations in the lower classes?—Yes, I suppose there might be if there were sufficient time, because of course I consider that drawing and object lesson teaching would very fairly be a continuation of the kindergarten employments.

19121. I suppose you can see that the making of things might be useful in making the drawing more intelligent to the children, the one would help the other, making things from drawings, interpreting the drawings?—I consider that would be difficult.

19122. You might be willing to make an experiment to see whether it was possible?—Yes.

19123. You say that you object strongly to the introduction of manual instruction into Ireland in

your view of what manual instruction is, but do you contemplate its being introduced as a compulsory subject all over the country?—Oh, yes, I had that in my mind.

19124. Have you seen a proposal by anybody to make it compulsory all over the country?—No, I have not seen a proposal as to what way it was to be introduced at all.

19125. Would you object to it being tried in selected schools?—Not at all.

19126. Would you have science teaching made compulsory all over the country?—Well, only as the schools where it would be likely to be of use, I believe in most schools it might be to a certain extent introduced.

19127. Object lessons would be of use in every school?—Certainly.

19128. And the more advanced science instruction might be followed according to the locality?—Certainly.

19129. In the country it might have a bearing on agriculture, beginning directly with objects and experiments?—Yes.

19130. You would have drawing made compulsory as soon as we get sufficient teachers, you would have kindergarten occupations extended, and you would have elementary science made compulsory, I think?—Yes.

19131. Then that is practically what we mean by manual and practical instruction?—I hope so.

19132. I think you said you had an impression that the needlework instruction did not make the girls more intelligent?—Yes, I never heard it and that it did.

19133. Do you think the girls would do as well as if they did not receive any instruction in needlework?—Yes, I think they would acquire a knowledge of the literary programme just as well.

19134. Yours is a boys' school, but, I have no doubt, you have heard the opinions of your fellow teachers; do you find the girls who devote five hours a week to needlework are any more backward in the literary programme than the boys who don't?—I don't know that they are.

19135. It is not proved, we may take it, that the girls are more backward than the boys?—It is not.

19136. Notwithstanding the fact that they give five hours a week to needlework, so that they can obtain equal proficiency in the subjects that boys are examined in, in less time?—It can be looked at in another way: it is generally admitted that up to a certain age girls are more intelligent than boys. When they reach thirteen or fourteen the boy begins to go beyond the girl.

19137. But we are dealing with children who are under thirteen or fourteen, the great majority; I think, we heard it stated that the majority of your school children leave school at eleven or twelve, so that would be at the age at which girls are more intelligent than boys?—I think so, and they apply themselves better to acquiring knowledge—to lessons at home.

19138. Don't you think needlework gives them some notion of accuracy and accuracy that the boys don't have generally?—I daresay, and it is very useful for them, in fact, it is absolutely necessary for the girls to know a good deal about needlework.

19139. Don't you think exercises might be devised for boys, to give them a similar training in accuracy?—I daresay there could.

19140. It might have the effect of making boys of that young age more intelligent than at present?—I don't know that it would, but it is quite possible.

19141. You said that one objection to introducing manual instruction into elementary schools is that it is a preparation for technical education, and that the technical schools don't so yet exist?—Yes.

19142. Which is the more natural way of beginning a system of technical education, to start technical schools, and then prepare the children in

the elementary schools for it, or to prepare the children in the elementary schools first, and then start the technical schools?—My opinion is, that they should be started simultaneously.

19143. You think that the teaching of many of the subjects in schools might be made more practical than it is at present; you agree, the teaching of advanced arithmetic in certain forms is not profitable?—I do; I believe the higher arithmetic should be made an extra subject.

19144. Do you find the reading books too difficult for the age of the children?—The reading books that we have been using for years are far too difficult.

19145. The children might make more progress if they read a larger number of simpler books?—Yes, and I believe that instead of affording us more time in the future for teaching subjects, and especially for teaching any new subject that it might be thought well to introduce, the very fact of explanation becoming so elaborate a matter it will take a great deal more time from us than heretofore.

19146. But if the books are made simpler the explanation will be less required?—Quite so.

19147. So that a way of saving time would be, not to prescribe a small portion of a very difficult book to be explained, but to have several very easy reading books with less difficult explanation?—Yes, I would entirely agree that there should be more than one set of reading books used in the schools, because I hold that the object which should be kept in view in devising reading books is to teach reading, not to give information.

19148. So that apart from any training in observation and accuracy that we might get from the introduction of manual instruction in its various forms you think that we might make the present subjects in schools more practical?—There is no doubt about that, and more interesting.

19149. And in order to have that brought about you would think a very considerable modification of the present results system desirable?—Yes, I do.

19150. Captain Shaw.—At present, I think, grammar, writing, spelling, and reading, are four separate subjects, and are treated separately for examination?—They are.

19151. They might be all contained to a certain extent?—I don't see how.

19152. Don't you think you could teach grammar and reading and spelling at the same time?—No, I don't think it; I don't think that spelling could be taught very well with reading. To make an expert speller requires a considerable amount of time, and I don't think that it could be taught in connection with reading or grammar.

19153. Do you think it is a good system to teach children to spell by memory, *versus*?—Yes, I do, I think after all it is the best system.

19154. Why do you think so, a child never has to spell a word unless he sees it in practice?—Yes, children spell very largely by sight as well as by ear.

19155. What is the advantage of teaching to spell by ear?—I don't understand you exactly.

19156. You ask a boy how he spells "geometry," and he says "g-e-o-m-e-t-r-y"; he has no assistance from his eye or written word?—He has seen it down before, and perhaps has written the spelling of it.

19157. There is one expression here of yours—"This unscientific using of tools and the ordinary legitimate work of a primary school are so incompatible, that to try mind they will never be carried on successfully together." What do you refer to there?—The use of tools in manual instruction in connection with a school.

19158. Do you contemplate that you should be asked to teach them to use their tools unscientifically?—Well, as a general rule I understand that children that have been taught to use tools in primary schools acquire a very bad method of using them, and generally those methods have to be undone when they go to learn trades.

Witness.
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Mr. Phillips
Went.

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Mr. Philip
Ward.

19159. Does this observation apply to Ireland or England or any particular place, or is it general?—I heard it made use of in Belfast.

19160. As a result of the handicraft training in Irish schools?—Yes.

19161. You object to the handicraft taught at present, and proposed, as being too extensive?—I do.

19162. As regards the length of time which the children are kept in school, do you think they learn better after they have been in school for a considerable time during the day, than if they had had an interval?—I would be in favour of an interval without

the children getting away, or I would have the interval very short, as the playground, for instance.

19163. Mr. STANTON.—For how long?—Half an hour.

19164. Mr. HARRINGTON.—Don't they get an interval of that kind at present?—In some cases they do, and in some they do not.

19165. Mr. STANTON.—Have you cases in which children are actually in the school room from ten in the morning to three in the afternoon?—Yes.

19166. Do you think that a reasonable proceeding?—I do not, I think we should have a sufficiently large playground attached to every school.

Belfast.
Oct. 13, 1897.

FORTY-THIRD PUBLIC SITTING.—WEDNESDAY, OCTOBER, 13TH, 1897.

AT 10 O'CLOCK A.M.,

At the Grand Central Hotel, Belfast.

Present.—REV. HAMILTON WILSON, D.D., in the Chair; THE RIGHT HON. C. T. REDINGTON, M.A.; REV. HENRY EVANS, D.D.; W. R. J. MOLLOY, Esq.; CAPTAIN T. B. SHAW; and J. STURTHELAN, Esq., S.A.;

with J. D. DALY, Esq., M.A., Secretary.

Rev. THOMAS QUINN, D.D., Resharikin, examined.

Rev. Thomas
Quinn, D.D.

19167. CHAIRMAN.—You are the Parish Priest of Resharikin?—Yes, sir.

19168. Have you been long there?—I am over fourteen years there.

19169. Have you many schools under your management?—I have five.

19170. They are pretty largely attended, I suppose?—Well, not largely, there are all single schools, some few of them able to keep a monitor.

19171. Have you any cookery or laundry in connection with the girls' schools?—No, there is no cookery or laundry.

19172. And no manual teaching for the boys either?—No.

19173. What is your opinion about the desirability of having small gardens attached to the schools?—Well, I think at the present day, as far as I have travelled and read that farming and gardening, especially gardening, are being taught in all the countries with which we are acquainted. I remember reading in France in 1889 in the debates in the Parliament about agriculture, in which of course I am specially interested, that they had made some slight mistake—before this, education went under the name of professional or technical, as we would call it—and wanted it divided into agriculture, commercial, and industrial. One of the members said they had received a deluge of criticism because they seemed even to throw a slight on the teaching of agriculture by not having it formally mentioned. In Denmark, of which we hear so much, Mr. Poulsen at Oxford, speaking of Danish butter, of which so much is talked, stated that it was due greatly to the schools that they had for teaching how to make it. The Danes, however, I believe, hold that a good substantial foundation of general knowledge is very necessary, and that their butters are good because they are mixed with brains. Even in Egypt, I was reading something about it, but I have not been there, they are teaching agriculture. However, I don't profess to be a very high authority upon these matters, but in our National Board programme agriculture holds a very high position as the best paid on the list. It must be taught, and the only question is whether we are teaching it with as little trouble to the children and

as much benefit as might be. Distinguishing between farming and gardening, a garden is a little plot, I suppose, where what might be called something like the luxuries of life are raised, of course a spade-hoed acre is five or six acres, a one-horse farm, about fifteen, and a two-horse farm thirty acres. But speaking about farming as distinguished from gardening at the present time, some men hold that with the knowledge of things that children see around them in the country that farming can be taught effectively, as it is taught. I was sometimes thinking if we had the business they have in Germany, if instead of keeping the boys in school the whole day the teacher were to take the boys through the country and give them a lesson, as the German teachers are so fond of doing, there might be something in that. I see you had before you my friend, Mr. Headen, who went in very strong for the fact that you can teach it as it is, but he or anyone else would admit that it would be no harm at all events to try and teach it practically, if the thing could be done without incurring any great cost or inconvenience. But whatever may be said of farming, I should think gardening at all events is an absolute necessity. In the poor districts of the country it is very difficult for children to see celery plants, even to see the simplest things, to see three courses in the year of cabbage; they see one course of cabbage. I should think it would be far easier, in order to give a child a knowledge of the celery plant, to show him the celery plant and how it would be grown. I think sometimes it is almost cruelty to the children to ask them to learn these things without showing them. The question then arises about the time; of course some time must be expended on that, as you have it in the programme. I think there are a number of matters in connection with the general programme that might be curtailed a little any way. I am not, of course, again, a very high authority upon the matter.

19174. Well, you think some subject must be curtailed?—Yes, I think so. Take the grammar, whether you teach grammar in the third book or not I think the inspector might be tightened a bit about the questions. The teacher should not only know but be thoroughly convinced that there would be no

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question in grammar is the third book asked that would require for its answering to know about the construction of the rest of the sentence. Now, words ending in "ly," little ones are generally disposed to look upon these as adverbs. The reading books too, indeed, are a little, I think, difficult to be understood by the children. There has been a change made, new things coming in this year, but I must say from the experience I made down in Coleraine the other day, they are not thought to be very much of an improvement. I am not much of an authority on the matter myself, but I wish there could be a selection made that would be profitable—I know it is attended with a great deal of difficulty. Perhaps it would be no harm to say, one of your colleagues, Monsignor Molloy—he is a good, honest, very kindly, some time ago, gave experimental lectures to the students in training in Donaghadee and also to the students of the Female College. He is looked upon as an ideal teacher. Apart altogether from the knowledge he communicates to the students, his manner of doing it is so immense advantage to persons coming out to teach. There is in the books a lesson taken from a lecture he delivered, of course to a more advanced audience, on the burning of a candle, and I am told it has caused many a candle to be burned. I merely mention this to show that there is a great deal of difficulty about it. If you had all lessons like "Where the Miller," children would take these up. Instead of 300 pages, better 100 well understood or 150. In the two stages of fifth children often have more difficulty in plodding their way through a long sentence than they have in understanding the grammar. If a child could parse the simplest lessons on the tables, first book, I think it would do fairly well until they go to the sixth class. In the arithmetic, too, I think it was a mistake in the alternative programme that interest was excluded, that girls were prevented from learning interest. I think at the present time, when there is so much knowing and lending, interest is an important thing. But there are mistakes in the higher stages that might be reduced. Geography was not taught so well in my day as it is now, but I think if geography were made more practical, if they were asked to point out some important place on the map, and if we knew more about the geography of the United States than we do about the British possessions it would be better for us. Taking the North of Ireland, the geography of Scotland, where our little and big are working, and of the United States, would be important for us. This getting off names and heights of mountains, as far as I can see, is the German schools seems to be a very prohibited article. Last time I was down in Killybegs a driver said, talking of a mountain, that it was 369 feet 11½ inches high, it used to be, he said, 561 feet, but an American took off the quarter inch. The knowledge that is merely acquired by committing things to memory is not of much use. At all events I think the geography might be made a little more easy and at the same time practically as good. You are very particular about needlework, an hour a day is a pretty long time for needlework, it becomes specially difficult and inconvenient where, as in the country, you often have a workmistress and master in the school, and the girl is taken away for a full hour. It is a difficulty certainly, and I don't know that they are busy the whole time at the matter, of course it is very, very useful. Then again sometimes the inspectors object to teachers with farms. I don't know if there is such a thing as what the Board looks upon as ideal, that is of a man having his residence convenient to the school and having a farm attached, I don't know if ever an inspector has objected to that man working a farm. We have not very many of them yet, but, however, whatever may be said of a farm of 20 or 30 or 40 acres, I, for instance, have myself a married teacher, he has a large family, and, though he has no ground, he keeps a couple of cows,

it is a very great luxury in the country to have your own sweet milk. He takes grass for them, and instead of buying hay he sometimes buys a field in the springtime. Instead of buying oats and straw he takes a field from a poor man at this time of the year and sows a crop, and so between odds and ends he works seven or eight acres of land anyway. And of course a garden is a thing that would be an absolute necessity in connection with a man living in the country. However, my point now—the only point remaining is about getting money to buy this. Of course there is a distinction between vested and non-vested schools. At the present time the Board of Works is empowered by Act of Parliament and the National Board, of course empowered, to advance money for the purchase of land for a farm in connection with a non-vested school, but not in connection with a vested school. They are empowered to purchase, by an Act of 1854, a farm of land, not exceeding twenty-five acres in connection with a non-vested school, and in the country at present the schools are very much vested. In the towns they are not so much. The awkwardness is there is a school within a score's throw of us, here in Belfast, and the manager could get—not least the Act of Parliament empowers him to get—money to purchase a farm of land, where he has no use in the world for it, and I, with a vested school cannot get the money, I think that ought to be remedied.

19175. Rev. Dr. EVANS.—Father Quin, you are the manager of five schools?—Yes, sir.

19176. How long is it since you began to be manager?—About fourteen years.

19177. That is a pretty long period, sufficient for you to have good experience, and to know a great deal about school work?—If I took advantage of it.

19178. What is the average age at which the pupils leave your school?—Well, indeed, I could not give you that exactly.

19179. Do any stay until they are fifteen years of age?—We have comparatively few, we have a few in all the schools of course.

19180. The most would have probably about twelve?—I am sure they would.

19181. The agriculturists that might be taught to young children, say under twelve or thirteen could not be much?—There could not be much, certainly.

19182. Have you given much attention to the subject of manual instruction in primary schools?—Not much indeed.

19183. Have you seen its working abroad on the Continent?—Well, I did not give much attention to it.

19184. Are there any school gardens in connection with your five schools?—No, there are not.

19185. Is farming well done round about you?—Well, I think it is, dairying is worst in the county Antrim, farming is pretty well done.

19186. Do you think it would be possible for the managers of schools, particularly your own clerical managers, to have anything like a committee, in which they could all meet from time to time for consultation about school affairs and to advise the Board?—It is possible, but I don't know that it is very practical.

19187. To have a body of opinion is always very important?—It is.

19188. Bodies of men consulting together are more likely to get hold of good ideas?—I know it is.

19189. But you could be in favour of school gardens, would you?—I would, certainly.

19190. What practical difficulties are there in the way of school gardens in connection with National schools?—The most practical difficulty is the land, that may appear a small thing—at least I suppose all people have their own complaints—in the county Antrim you will see from your return that men of wealth have done less for National education than in any other county in Ireland; it is very difficult to get money.

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19191. Have you been present in the schools when the inspectors conduct the results examinations?—I have.

19192. You think that to be very important?—Yes, and the inspectors like it very much.

19193. And the manager then has an opportunity of forming a very correct opinion as to how everything was going on?—Of course when I speak of finding fault with results, I would give my general opinion that it is the best conducted oral examination with which I have become acquainted in my lifetime; it is not perfect, I suppose never will be.

19194. Have you any suggestions that you could make to the Commission respecting the introduction of manual instruction into the schools?—I am afraid I would not be much use in that.

19195. As to in what class of schools we might attempt to introduce it, where the money is to come from, and how local an operation may be secured?—They are talking about large central schools, but I am afraid in the country what you can do, must as a general rule, be done in the school.

19196. Mr. Sturgeson.—I gather that you are not quite satisfied with the present agricultural teaching in the schools?—No, I am not.

19197. Where it is mainly taught from a textbook, you would like to have it more practically taught?—I would.

19198. And for that reason you would favour school gardens and school farms?—School gardens anyway, and school farms, at least on a small scale.

19199. You advocate the school gardens from two points of view, one is for the benefit of the teacher, and a teacher living in the country should have a garden as a luxury and a useful thing for him?—Yes, and another that he might be better able to teach.

19200. These are two different points of view, that the farm might be useful to the teacher as an investment or industry, but not used at all for teaching the pupils?—Both can be, of course I would have both together.

19201. Is there a difficulty in getting school gardens for the teachers. Have your schools got school gardens attached to them?—No, they have not.

19202. The teacher has no plot of ground at all?—No plot of ground at all.

19203. Then there is a difficulty in getting school gardens?—There is the main difficulty, money.

19204. But of course, as you have already said, children leaving school at eleven or twelve could not benefit very much by instruction on a school farm?—So far as they read the programme—that is a question for the National Board—whether they should bring in the agricultural programme—but certainly as far as they read the programme I think they will learn a good share.

19205. Do you think children of eleven and twelve would learn much more on a school farm than they would from the other farms round about them?—Well, you know, if a teacher were to take his children through the country and look at the crops as they grew, there would be something in that. It is a great thing when you are teaching anything as an experiment, or giving a lecture for instance, if you could bring in magic lantern views, there is a great thing in object teaching, so to speak, the general principle of object teaching, it would be a great thing, when you are explaining, for instance, the time flux should be pulled, if you were able to take the children out at the time to the fields.

19206. The children living in the district where flux is grown, would see that on the other farms?—Of course they would if they look at it carefully.

19207. You advocate permission being given to the teachers to take out the pupils for excursions in the country?—I don't exactly advocate that; I put it this way, that, if that were done there might not be the necessity for school gardens, but I don't advocate

that because there may be a great many objections to it; at all events it is not done at the present time.

19208. Would it not be well to try that first before going to the expense of buying school farms?—Well, I don't know now, in the country districts our children, a great many of them, walk long distances to school.

19209. There is all the more opportunity for seeing things as they pass?—They have, but the teacher cannot be with each one of them going to school and coming home.

19210. He can ask them to bring specimens of things taught in the school?—There may be something in that. But I don't think the Irish farmer would like to see a batch of children and a teacher coming to point out the faults in his crop.

19211. Does not the teaching of any subject mean the pointing out faults to a certain extent?—It does, but there would be less objection to have that done in the teacher's own farm.

19212. You can see that buying school farms all over the country would be an enormous expense?—It would take a considerable time to do it; before you can get school farms taught all over the country there will be plenty of time to try the experiment.

19213. And so, unless we are going to get a very clear gain from these school farms, it might be started by allowing the teacher to take the children out as in Germany?—Whether you can or not I don't think you will lose. I am not wanting the money for nothing. You lend money to purchase a farm in connection with a non-vested school; my principle is if you do that, why don't you do it in connection with a vested school, you lend that at 3½ per cent, which is a very good investment. The Government lend money to public boards at 2½ per cent, and they ought to lend it to us. At all events the British Government can lend money at 3½ per cent, on good security and lose nothing by it.

19214. There are some school gardens in existence at present?—Yes, I saw one in Kilkenny. I did not see much of the teaching.

19215. It has been put to us that the children are rather made use of for weeding and assisting the teacher to make some profit out of the farm?—I am glad you mentioned that; I think at the present time that should not be done, although I suppose it would be the better way of teaching farming, still I think Irish parents would object very considerably to the children being employed at labouring in connection with the school; I think they have labour enough at home. I tried two or three gardens, but something or other turned up. I tried first a garden, and after two years on a visit from Mr. Carroll it turned out there was not ground enough. I think that in a bulk in the rule, the rule should specify the minimum quantity of ground, the same as you specify the minimum attendance for a first class, second class, and third class teacher. Another time I opened a garden on the school ground and they came down hammer and tongs on me from Marlborough-street, because it took away from the playground; at all events they objected to it. Under our present programme you should make the best you can of both gardening and farming without having the children to do much manual work.

19216. For that purpose a very small plot might be useful?—It would; I think I had as large a plot as would be useful; however it was against the rule; the rule does not specify the size; it was left to Mr. Carroll; I think a rood would be enough, but this was some fifteen perches.

19217. Was this lately?—Seven or eight years ago.

19218. He might possibly have changed his views now?—Perhaps so.

19219. Then you have paid some attention to the teaching of agriculture in France and Denmark?—Yes.

19220. Have you seen the new French programme for instruction in agriculture?—I have not.

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19221. You don't know that that programme has made a very considerable change in the direction of substituting the teaching of certain elements of science rather than of teaching agriculture directly in the schools?—I see that is the tendency in Germany; they devote a great deal of attention to the science.

19222. The idea being that a good general education is a better training for after professions than beginning a special study too soon?—There is a good deal to be said in favour of it. I am sure, of course the difficulty would be about how to get experiments on land there as a good deal to be said in favour, for instance, of an elementary knowledge of chemistry, or any of the sciences as applied to agriculture would be a desirable thing, but the difficulty is how to teach these things.

19223. You spoke of Denmark as being very much advanced in *dairying*; are you aware that in Denmark no instruction in agriculture is given in elementary schools?—Not in the elementary schools.

19224. And the great progress of Denmark is one to higher technical schools?—Yes, so it is.

19225. One witness has suggested to us that model farms ought to be established here and there throughout the country to which the children should go after they leave school, older children of sixteen or seventeen?—We had them before and they went down, I don't think they would be of very much use, I think with the children in the country you must try and do what you can with them in the elementary school.

19226. Do you think such institutions as Glenservin and the Minister Dairy School are very useful?—I believe they are. We had several of them through the country before, but they seemed to be a failure.

19227. Were they not attached to schools, school farms?—Not at all, you had what we call model farms, we had one in Belfast and one in Ballymoney.

19228. What were they?—They went down and the Minister farm was about going down too, I think the *Pressman's Journal*, if I remember, had a good deal to do with arousing local opinion, and it was continued.

19229. At any rate local effort has revived it?—It has.

19230. Who attended the model farms here?—They were attended by very few, there was none of them over near where I was in the country.

19231. Did pupils attending the ordinary schools receive instruction in these model farms?—I don't remember.

19232. You spoke about the reading books, that you find these rather difficult?—I think they are.

19233. Would it not be an advantage to have easier reading books?—I think it would.

19234. And instead of giving 100 pages of a difficult book, to give much more of an easier book?—You might go the length of making it more difficult still. I do think that the labour of reading is too much and I would be inclined to make the books more intelligible and not add very much to the reading.

19235. Make them more intelligible in the first place?—Yes.

19236. And then get as much reading done as possible?—The Inspector and the National Board will settle what is the best to be done.

19237. Captain SHAW.—Are you acquainted with the new book on agriculture which has been issued with the sanction of the Board?—I have just looked at it and I heard of it from some of the teachers, the opinion is not favourable.

19238. What would your criticism of it be?—I did not read it closely. I would hardly be an authority. I think, as has been said here, it would require some knowledge of science.

19239. Does it not include the whole of agricultural tillage, dairying, stock-raising, gardening?—So it does.

19240. Do you think it is possible to teach a child

all that in two years?—It certainly is impossible at the present time.

19241. Do you think even a grown man, spending three hours in the week, could learn all that?—I don't think he would.

19242. It would be more useful to have a less ambitious course, and do it more thoroughly?—I think so.

19243. Do you propose that teachers should have the management of farms if attached to schools?—Yes.

19244. How much of their time should be occupied?—As far as the children are concerned, I would not give more than about half-an-hour a day.

19245. But to cultivate the farm?—The teacher would merely superintend the cultivation.

19246. Do you anticipate he should have assistance to work the farm?—Decidedly.

19247. That would be still more expensive?—It might, but I think he would be able to make it pay.

19248. You think the teacher should provide this assistance himself?—Most decidedly.

19249. If he is given the farm he gets no assistance towards the working of it?—I would expect him to pay interest on the money the same as he does on his house. You lend the money to the manager, as you do to build a house, and he would pay. If you would pay half the interest, as you do on the residence, it would be all the better.

19250. Do you consider that the teachers as a rule have sufficient agricultural knowledge?—I don't think they have.

19251. How would you propose they should get that?—There are teachers that have and others should be made to have. It is a drawback to the teachers in training that they don't get better opportunities, but you must begin somewhere. If a boy was a monitor in a school where there was a garden, and then went on to be a teacher and got instruction in Duthie, it would greatly improve him. There are some more that would not have the taste for that.

19252. Do you think it would be desirable to start another course of agriculture, say in the scientific direction, and send round instructors to various centres, and let the two run side by side, have one school working the old and another the new system, and see which is the most effectual in the end for educational purposes?—The persons who would attend these teachers who go around would be grown persons.

19253. Would be teachers themselves, who would learn to teach scientifically?—I think that would be a very good thing that before a teacher got charge of a school farm he should go to some place, and be in bound at the present time to do so—go to Glenservin or to that place in Waterford, it should be part of his qualification for taking charge of his school farm that he should undergo a course of training in connection with farming, the same as he has to undergo training for anything else.

19254. Mr. McNEER.—I think, Father Quinn, that prior to your taking charge of the parish of Rusharkin you had extensive experience of school work in Belfast for many years?—Pretty fair.

19255. With regard to your last observation about farming, would you think it advisable that training colleges should have farms attached to them?—I think so.

19256. In connection with Glenservin there is a farm, and also the one you spoke of just now at Waterford, and of course there are facilities at Cork in connection with the Minister Farm; you don't advocate a return to great model-farm establishments, such as that formerly at Belmont?—I do not; they failed, and it would be an awkward thing to revive them again.

19257. Mr. Struthers inquired a while ago whether such establishments as Belmont, two miles out from Belfast, were attended by other than National school

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pupils; as a matter of fact agricultural pupils resided at those places?—Yes.

19258. You are more in favour, perhaps, of school gardens attached to schools, than farms?—Certainly.

19259. And would you experience much difficulty in getting that land?—In the county Antrim, with which I am acquainted myself, there is a good deal of selling of land, that is more in the way of farms. I had several opportunities of buying land. I must say that I have been applying for ten or twelve years to the National Board on this matter. In the North of Ireland you will get land in the market, at least I got several chances to get a small portion, a rood or so, you will get that, but you will have to pay pretty well for it; a man does not like to part with a rood of land.

19260. You called attention, and properly, in my opinion, to the great difference of treatment regards vested and non-vested schools; somewhere about 1884 an Act of Parliament was passed—I think it is dated 19th April—giving special facilities to non-vested schools to have farms attached. You would strongly advocate the great propriety of that taking place also in the case of vested schools?—Yes.

19261. In fact, of the two it seems more natural it should apply in the case of vested schools?—Yes, there is a good deal of care taken before money is advanced for a vested school, and there is a good deal of more likelihood of its continuing to exist than a non-vested school.

19262. And similarly as the Government give aid for the erection of teachers' residences, there might be a garden attached to the residence?—There should, I am inclined to think it is an absolute necessity in order that the teacher should be able to teach his pupils what he is bound to teach them at the present time.

19263. Have you ever tried any industrial work apart from the idea of the farms, and what was your experience of it?—I tried my hand at hand loom weaving one time. About 50 or 60 years ago, before the power looms started in Belfast, in the county Antrim, at all events, at that time there were three or four weaving looms in almost every house, except in the case of some very large farms. And a very comfortable thing it was, because a farm of five or ten acres at that time used to give the weaver his potatoes and corn and other things, and milk and butter at first cost, and he was, on the whole, very comfortable. There is a person in my parish, a woman, who went through all the processes of managing flax, saving the seed, and spinning. After a short time, when Belfast went ahead here, the spinning by the old wheel seemed to be done away with. But still hand loom weaving continued, dropping away gradually. There was a good share of it when I went to Rasharkin about fourteen years ago. It was in rather a depressed condition, and then it revived and went down and revived again. And I thought as it had existed forty years within forty miles of the most powerful power loom machinery in the world that there was something in it. Looking into the matter, what struck me was that the loom had made no change since the days of wooden ploughs. I applied to the National Board for money to enable the thing to be done, and I must say Mr. Arthur Balfour was a very good friend, at the time he was Chief Secretary, and we got the money, some £500 a year. A technical school had been started in Belfast just at the time. I paid several visits there and was treated very kindly. I brought up to Belfast here on two occasions weavers from the country, and had consultations in the technical schools and in the foundry which had supplied looms to some places in the South of Ireland—Shillbreen and other places; and the question was what improvements could be made in the loom people had been using in the country. And we got a loom constructed, as we thought—at least I went to all the care I could—a loom constructed on improved principles, but unfortunately, instead of

weaving better, it would not weave at all. The difficulty arose from the fact that the cloth we were weaving was heavier than the cloth they are weaving. In the ordinary hand loom the thread turns round one beam, and as it is being woven the cloth is turned round another. The hand loom weaver after he weaves up a portion had to come off and open up the whole thing in order to turn round the portion he had woven. In the power loom here they have clockwork machinery by which the two beams are constantly turning, and I thought if that could be applied to the hand loom it would be an improvement and a great saving of time. There is another thing too, the hand loom weaver has what he calls temples, that stick in the selvage and keep it pressed out. In the power loom there is something like what you hold a bundle of paper by, dips, and these are by other machinery gradually moved on too, whereas the hand loom weaver has to do some time in taking off these. The beam must be weighted to a certain extent to keep the cloth firm, and our cloth seemed to be so heavy that when the beam moved at all it was not able to keep it firm enough. I suppose I might have gone further into that, but a number of things turned up; the position of the teacher became very much improved, and every mother was sending her Judy to school to become a teacher, not to become a weaver, and meantime the power loom was encroaching on the hand loom, which was going out of date. Indeed, I had a correspondence with the secretary of the Rarissen Burleigh County, who has had a good deal of experience in these matters, and who seemed to think the days of hand loom weaving were numbered.

19264. At what time of the day had you instruction in this weaving?—I had no instruction at all, it never went the length of that, it never came to anything practical. I thought if I could get some loom better than the ordinary one, that was No. 1, but there were a number of other difficulties that arose, and the hand loom industry is unfortunately a thing of the past in our country now.

19265. Had you a special room for the purpose?—I intended that.

19266. Supposing it had taken practical shape would the instruction have been carried on out of ordinary school hours?—Not necessarily.

19267. Not in the continuation school?—Not necessarily.

19268. You did not expect that that would interfere with the literary instruction of pupils?—Of course it should be done in such a way that it would not.

19269. The time that you contemplated for this practical instruction in weaving, could not that be devoted to the instruction in manual training and giving more attention to elementary sciences?—I am sure it could.

19270. Have you ever introduced cookery?—No, I have not, I think we must have gardening before we have cookery; whatever may be the line to be drawn between theory and practice, I am afraid a theoretical dinner would be a poor thing.

19271. Mr. SEYMOUR.—Would you teach the girls gardening?—I would, certainly, and teach girls something about farming too.

19272. CHAIRMAN.—You like to produce the article before you cook it?—Certainly.

19273. Mr. MULLOY.—What is your experience of the way in which needlework is carried on in your schools?—It is carried on very well, but I am inclined to think there is rather much time given to it. And it is better to have the children under the control of the proper teacher, for when they get into a room under a workmistress, the dressmaker, it is a kind of school for scandal the way they talk.

19274. In England three hours a week is looked on as adequate—I think if it were done well that time would be sufficient. There is a good deal of

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complained about bringing things to mend, Irish people won't do that. I tried one time an industry in Derry, you will meet it there, shirtmaking. They get the material from the Derry factories, cut out shirts, and take them to some of the markets and give them out—just as yarn used to be given—to the girls to make the shirts. The programme of the sixth class would be something like the making of a shirt. Well I tried to introduce it. We have comparatively few in the sixth class, and the girls did not seem to care for it.

19275. Are any of your teachers qualified to give instruction in kindergarten?—Yes.

19276. You have some teachers trained, if I mistake not?—I have them all trained.

19277. And the female teachers, I presume, all are qualified in the kindergarten?—Yes.

19278. Have you ever thought of introducing it?—I have tried it this year, it is going on six or eight months.

19279. So far what is your experience?—Well, of course, I have only very little, I can only go on the general principle of object teaching that it ought to be beneficial, but I have not sufficient experience to enable me as yet to speak of it.

19280. It is, however, a favourite subject, is it not, with the teachers, who are trained?—Well, with some.

19281. Touching reading books, of course you are aware that if you submit to the Commissioners any series other than their own and the series happens to be free from objectionable matter, you can introduce it into your school?—Yes, I understand that.

19282. You would like a simple series?—I would, of course, but I have heard from very few teachers that the change has not been much of an improvement in Blackie's or Thomson's series.

19283. By a recent regulations explanation in the subject matter has become a *tabu* you can in connection with reading, are you in favour of that?—Oh, I think so.

19284. That the pupils should have some intelligent comprehension of what they are reading?—I think so.

19285. Are you able to compare the state of schools now with the period prior to the introduction of realism?—I could not do that. The result system

came in the first year I came on the mission, 1871 or 1872.

19286. On the whole what is your opinion of the present results system, subject to the modifications you propose?—There is one thing I have been musing, there is one thing not sure about it that I think might. If it could be made a test. Take a boy on the second stage of sixth or a girl either, and the question arose that need to be discussed some years ago in the *Daily Telegraph*, what are we to do with our boys, before you make up your mind what you should do with your boy, it would be a nice thing to know what you could do with him. And if the result system were anything like a good ideal when a boy had passed in the two stages of fifth and first stage of sixth it would be a very good and useful test of what he could do. Somehow or other the gentlemen in charge of the boarding schools don't like to send a boy home because he is unfit. A boy may be fit to pass his examination, but if the parents, or if I, as a clergyman, take up his result sheet it would be a very good test and give instruction what a parent should do with the boy.

19287. Would you be in favour of giving certificates on leaving school to successful pupils?—It would be a little awkward. A teacher's character, or the character of the school, ought to be, like Caesar's wife, held in very high esteem. A teacher may do his work very well, and yet, in one some boys or girls did not pass well there is very great danger that the parents would throw the blame on the teacher, and thereby his influence would be impaired somewhat. I would be slow about that.

19288. One of the witnesses advocated the propriety of giving prizes to successful pupils by way of encouragement?—I think it is a great pity that has not been done, something in the nature of the intermediate and also for attendance, prizes should be given for those who make 100 days.

19289. At one time you are aware that in connection with all the model schools the National Board gave prizes to the successful answers?—Yes.

19290. And if I mistake not you were one of those who advocated the extension of it to the ordinary schools?—I certainly think so, for poor children, and then parents make considerable sacrifices at the present time in sending them to school.

Right Rev. Messrs. BIRSE, F.R.S., Duncannon, examined.

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Messrs.
Byrne, F.R.S.,
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19291. CHAIRMAN.—We don't interfere much with the literary department of our National schools, we confine ourselves chiefly to manual instruction in connection with them, and we shall begin with agriculture. Would you kindly give us your views as to anything connected with agriculture that you would advise the Board to adopt?—Well, in the first place, I should say that my views would probably entail a very large amount of money yearly, from some source or other, in order to have them carried out. I fancy, however, whether rightly or wrongly, that the money would be well spent. I have been making a calculation myself as to the amount required for securing an improved knowledge of agriculture and several other subjects as well in every National school in Ireland, and I think to effect that there is one thing should be done—you should bring a knowledge of agriculture to the doors of every child in the community if possible. To do so I should suggest first that there would be sixty skilled, well-trained teachers under the National Board selected from those who have had three or four years' experience of teaching and who have been found fit to have improved themselves in their classification, obtained first class, if possible, and also found by inspectors to be particularly capable of imparting instruction in their schools and keeping order in their schools. I would select about sixty males of that class and the same number of females. I would appoint one of each to each inspector's district. I

think there are about sixty district inspectors in Ireland. You might call them agricultural inspectors or organizers if you wished. I would give them a sufficient course of training—each of them, so coming to the subject they were required to teach and inspect afterwards, because I would impose both duties on them. When they get a sufficient training in a proper place—I suppose Glenside would be able to train a considerable number, both males and females. The males I would wish to see trained in a thorough knowledge of agriculture—by that I don't mean the turning of the soil, because I am acutely to say that digging and delving is not likely to be attended with much profit in Ireland for the future. But I mean they should turn their attention chiefly to the importance of improving stock, the importance of poultry farming, the importance of improving the quality of butter produced in the country, the importance of feeding stuffs for cattle, the cheapest and best qualities of feeding stuffs, the best classes of manure, and the best classes of seeds. These are subjects in which these assistant inspectors or agricultural inspectors should be thoroughly trained themselves. I would leave to them, then, the duty, in their centres, of calling on the teachers of the different districts, both male and female, and giving them a course of instruction, either on Saturdays, or for a fortnight at a time in the summer vacation, or for three weeks, so as to enable them to teach at least

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the principles in their respective schools. The female teachers, in the first place, to give the principles of dairymaking in their schools; secondly to give a fair knowledge of poultry raising, of the qualities both for table and for producing eggs. With regard to the males, that they should be able to give instruction to their pupils as to the best breeds of cattle, the best class of food, and one point particularly that they should try and diffuse throughout the country—the importance and the necessity of spraying potatoes. I am sorry to say this year it is very hard to calculate what amount of money has been lost by the non-adoption throughout the country of a system of spraying. I can speak practically on that subject, because I happen to have observed it with more than ordinary attention, that those who have sprayed this year in my district have a comparatively good crop of potatoes, and with those who have not it is almost an entire failure, so that there is a very little short of a million of money lost to the country this year by the non-adoption of that system. It would take according to my calculations, about £50,000 yearly to do that alone. I add not only to the salaries of the teachers but I add to their travelling expenses. The salaries of about 125 teachers (leaving about five for emergency, in case of sickness) at £190 each an average, for I would say the salary for females should begin at £150, rising by £5 a year for ten years, and the salary for males should commence by £140, rising by increments, also of £5 a year for ten years, which would amount to £180 and £200 respectively, giving them a pension of £3 a year for each year's service after a certain number of years. That would entail £23,750; travelling expenses, 10s a day for 200 days for each, £12,500, making in all about £50,000. At each of these district centres there should be sufficient stock, with the necessary implements. They should also be taught in training schools some knowledge of handicraft. I don't mean that every man should be able to become a carpenter or a blacksmith, but should be able to give a knowledge of the first principles to boys, so that they might go to trades with greater ease, or if they become farmers that they should be able to do the great bulk of the buildings on their places. There is an amount of money spent yearly very foolishly on tradesmen for work that should be done by the farmers themselves.

1922. Would it be your opinion, Dean, that the ordinary National school teacher, should undertake all that in addition to his literary work?—The bulk of the work done should be done outside literary hours, but you might take an hour of the present programme with safety. The best time for a teacher to do this would be in night schools, or he should advance his school hours to four o'clock on Thursdays, and by that means he could dismiss the younger children up to fourth class, or whatever class would be necessary to instruct in this handicraft and in agriculture, he could dismiss the others at the usual time.

1923. I know you have considerable experience as a manager, are you a manager at present?—Oh, yes, of seven schools.

1924. Then you can speak with full knowledge of what the teachers have to do at present?—Yes, but my idea is that I don't think it would be such a mental strain as literary work would be in this extra time, or I would be very sorry to impose it on them, I think it would be more or less a recreation for pupils and teachers.

1925. You speak of centres for teachers?—Yes, for these agricultural assistants or instructors. One of each, a male and female, should be appointed wherever there is a district inspector of schools stationed, and have a place there in which they could give lectures to the teachers of the district, bring them up, say in twentys or so, for a fortnight at a time, and have them trained, and then inspect their work afterwards once a year, the same as the present result inspection; and they might even give instruction for

another day themselves while they would be in that school.

1926. No doubt it would be very valuable instruction for the teachers?—It is not merely the pupils I would have brought into this instruction, both in dairymaking and in handicraft, but also ex-*proprio*, and even the wives and daughters of surrounding farmers, because I have had a little experience of that class of training in a small way in Danganoo. We had one of the Board's dairy instructors down there some years ago, unfortunately the area of her influence was limited, but it produced good results.

1927. You also spoke on chemistry, what have you to say on that subject?—I think it is absolutely necessary that the children should have a knowledge of the elementary principles of chemistry. First, with regard to food, I think that there is a great want at the present time of a series of lessons on the relative values of human foods. There is an immense waste, and at the same time, a very considerable injury to health, especially in large towns, by the class of foods used, nothing but foreign foods, with the result that the people are losing their blood and colour and strength. I don't know where it is going to end unless there could be some lessons introduced on principles of hygiene in our schools, for if we don't commence at a proper time it is impossible to inculcate them, and if people at a certain age go on drinking tea six times a day, it is very hard to break them off it. The importance should be impressed on children of using substantial food, which would be cheaper than the present food, and far more nutritious, and better for health and strength. A slight knowledge of chemistry would be absolutely necessary for those engaged in that class of work.

1928. You also would introduce some extra branches, what time would you specify for teaching them?—Either the dairy work, poultry work, or handicraft—I say the bulk of them should be done after school hours, or you might take one hour out of the present school time, and give another hour at the most outside the present school time, either by prolonging it up to four o'clock, or in the evening.

1929. We have got the opinion of many witnesses with regard to the result system, and we would like to know yours?—I think the result system has been a great benefit to the country on the whole, it has improved the standard of education as far as my experience goes but it is capable of improvement in one or two points. In the first place, it has led too much to a system of cram of memory, and has not given sufficient room to the development of the intellectual faculties. The second drawback is that it has put the children too much on a dead level. In my capacity as manager of an intermediate school in Danganoo, I have had lamentable experience of it, we have had boys competing for free places in one of these Royal schools so largely supported by Royal endowment, and we have advertised for boys from the whole country to compete for these places, and I am sorry to say the majority of them were not up to the mark. I was surprised to find boys of thirteen years of age who could not score 50 per cent. in the ordinary fifth class programme.

1930. You mean boys drawn from National schools?—Yes, it is a condition that all the boys should come from elementary schools. My idea is that a smart boy should have gone through the first grade of sixth class at least when he is twelve years old, and many of those boys had been at school from infancy. I ascribe it largely to this fact—that even the clever boys are obliged to go on at the same jog-trot pace as the most stupid boys. I know myself, as a matter of fact, that many of these boys never do a particle at home in the evening. They don't find it necessary. There is a loss of time in that, when a boy comes to eleven or twelve. I don't see why he should not spend a couple of hours every evening learning his lessons and preparing for work next day.

19301. You heard the previous witness about school gardens, and so on, from your wide experience what would you say?—I think it is absolutely necessary that a school should have a garden or a small farm of land, in order that agriculture may be taught practically. In case one or other could not be arranged it is possible managers might make arrangements with an adjoining farmer to get a plot in common for five years, so as to go through a rotation of crops. He would not like to sell that, but he might not have any objection to give it as a lease, or he might let you experiment on one portion of ground which he was putting in a crop.

19302. Mr. MOLLON.—Monsieur, you advocate strongly that there should be a special male organizer, and also a female organizer in every district?—Yes.

19303. Well, we have about sixty of these districts, and of the sixty more than half happen to be town districts, such as Belfast, would you advocate that for Belfast?—Not dairywork, but I would handicrafts.

19304. Even in such places as Belfast, Cork, Dublin, and leading towns?—Leave out the dairy business or poultry, but the male organizer should be there as well.

19305. These specialists should be well up in handicrafts, and perhaps also in physical science?—Precisely, and in drawing too. I should say drawing is an essential.

19306. What part would you allow the ordinary teachers of the school in the instruction of pupils in these special branches?—The very same subjects that the organizers were supposed to teach themselves. They were to introduce a knowledge of practical dairywork to all their pupils of fifth and sixth class as soon as they were capable of acquiring a knowledge of it, and the duty of the organizers would be simply to go round and examine yearly, and also give some instructions themselves for a day or two in the school, because they would not have more than fifty or sixty schools to attend to in the year, and they have about 200 working days in the year, so that they could give three or four days to each.

19307. And in the absence of the special organizer would you contemplate the ordinary teacher carrying out the subject?—Unquestionably, teaching it is a part of his daily programme. I don't see in what other way it can be brought home to the people of the country.

19308. But in such places as Dublin and Belfast, you would give a decided preference to physical science?—Unquestionably. This is a place in which all the people turn to some mechanical business or profession.

19309. In rural places you would advocate the propriety of having a school garden, and if possible a small farm attached?—Yes, of five or six acres.

19310. Either attached to the school or the teacher's residence, or some way available, like that you advocate, the converse system?—The advantage of the first would be that it would give an opportunity of judging the value of stock and testing the value of different feeding stuffs and manures.

19311. Do any of your teachers give instructions in handicraft?—Not in any except sewing.

19312. Drawing?—Yes, our teachers teach drawing in the convent schools particularly.

19313. Cookery lessons also, I presume?—No, we have not had any cookery lesson, we have had all the apparatus and kitchen, but we have not got a staff.

19314. You made reference to a special teacher who gave instructions in dairying?—Yes, in Dungannon.

19315. Not merely in Dungannon, but in the surrounding districts?—Yes.

19316. Was that found successful?—Unquestionably, the vast majority of those who attended were grown women, married and single, and I heard each and all express themselves very much pleased with

what they heard, and I saw afterwards an improvement in the homes myself.

19317. Did not the effect of that instruction increase the price of dairy produce?—There is one thing certain, it increased the quality, it was not sufficiently extensive to affect the price. All the townspeople said it was immensely improved, but, like everything else, unfortunately, the effort of knowledge of that kind dies away if it is not kept constantly renewed.

19318. I believe there was a local committee organized in connection with that?—Yes, Col. Burgess took an active part, and the managers of schools.

19319. Would you advocate the propriety of having associations of managers acting as advising bodies, representing or calling attention to local needs, for the information of the central body of Commissioners of National Education in Dublin?—I should say it would be attended with very good results.

19320. I believe some commencement has been made in your neighbourhood?—We have a committee of managers whose business it is to make suggestions to the Commissioners of Education, and any observations on defects in the system generally.

19321. Of course such associations as these would put forward with great effect local needs?—I am not authorized by them to give evidence here, because, unfortunately, we had not time to hold a meeting since it was arranged I should come, but I think I am expressing pretty fairly the views of the managers of our diocese.

19322. And you represent the committee of managers?—Yes, but I am not here in my representative capacity. I am giving my own views, but I think they are to a great extent the views of the managers.

19323. Rev. Dr. EVANS.—You mentioned Commissioners of Education, did you mean a different body from the Commissioners of National Education?—I don't remember mentioning them—it is the Commissioners of National Education I mean.

19324. Mr. MOLLON.—And you would think corresponding associations advisable throughout the country generally?—I should say so.

19325. CAPT. SEAW.—Have you considered what the average age of children leaving school is?—With us, unfortunately, it is rather young, because we have factories in Danganmon.

19326. But throughout the country?—Well, it is rather young.

19327. Is the average age thirteen?—It would be under that considerably.

19328. Then how long would it be before these children would have an opportunity of putting into practice the agriculture which you advocate they should be taught?—I think if the children of the county districts found this was being taught it would be a great inducement to keep them longer at school.

19329. At any rate they would not have the management of farms, or be able to work them for some considerable number of years after they get instruction?—No, nor do I mean for a moment to confine this instruction to children at the schools.

19330. Would not such instruction be much better given to persons of seventeen or twenty?—I think I mentioned that; I said that these lessons were to be given not only to pupils but also to the daughters and wives of farmers; I would say to the sons of farmers as well as to farmers themselves in the evening.

19331. Do you think it would be much less if the children were left out, and it was confined to those?—No, I would not leave the children out, they will always be able to learn something, I think from eleven up.

19332. Suppose there was a system of technical education in the country, would you think that such teaching as this, which is purely for their benefit in after life, should be confined to the technical education school, special training for a special occupation, and should be rather a branch of a Technical Education Board, than of a Board of Primary Education?—I am

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Oct. 21, 1897.
Right Rev.
Monsieur
Evans, &c.,
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Belfast.
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not of all particulars as to what Board should have charge of this. I am not saying the Commissioners of National Education would be the best Board, I think there is some little promise of a Board of Agriculture, and it is very possible that the money would come through that Board. I am not particular what Board should take charge of it.

1933. You say they should know the best quality of cattle?—Yes.

1934. Is there any use-teaching that theoretically?—It will be useful to the younger people to have a knowledge from the book itself.

1935. Do you think they would recognise a particular breed of cattle or sheep from a book description?—Certainly not, but if they get the knowledge from the book, and then bring them to a farm where the cattle would be seen.

1936. That would entail having large farms well stocked?—Oh, no, it would not be necessary at all, you could have a good breed of cattle on a small farm, one cow with one or two calves; you can test how the calves thrive and are fed as compared with some on neighbouring farms. When a man sells a calf which is of a better breed than his neighbours and gets more for it, and it has been fed on different food and has increased more in size than his neighbour's, that has an educating effect on the child.

1937. Working farmers generally hold a good deal of land and are in pretty good condition, would you say they are the majority in Ireland?—We have 800,000 farmers in Ireland altogether and the majority must be small farmers. Of course in Ulster they are almost all small farmers.

1938. A great number of holdings are merely used as a support of the family, in which tillage is a very important matter?—Yes.

1939. These large farmers are generally well-to-do, don't you think they would be in a position to contribute something towards the education of their sons?—I am sorry to say that my experience with regard to the large farmers does not correspond with yours. No class in the community are suffering more than our large farmers of 70 or 80 acres in Ulster who have to pay high for labour.

1940. Don't you think they are in a position of life in which they would prefer to provide this instruction for themselves as far as they can?—No, I should say if they got instruction for nothing, they would have no objection to taking it. There is no class in the community in Ulster that seem to be so little suffering from poverty and want as those who have got small farms and can cultivate them within themselves and have not to pay a shilling for hired labour. But I happen to know from friends of my own who have large farms and have to pay for anything that they can hardly make ends meet.

1941. Have you considered the system of agriculture in France, that is that the young children from eleven onwards should be taught to make careful experiments in natural science and chemistry, so that they may learn the value of experiments and be able to apply it in agriculture afterwards, and thus test how they may get the best results on their land?—I doubt very much whether it would pay in Ireland. I would advocate instruction in stock and small industries, and fruit and poultry.

1942. But still experiments are useful in stock to observe increases of weight?—What I mean is that in the mere raising of crops of barley or oats no matter what amount of science you apply to it, I don't see how it would pay for the purpose of sale.

1943. If a farmer wants to find out at present whether he is doing well or not, he is not in a position to do so because he cannot make accurate experiments; if they were to make experiments so that they might each learn for themselves, don't you think that would be rather a good thing?—It would, but it might be too dearly bought.

1944. That is a training young children can get easily?—If it does not interfere with the acquisition

of more useful knowledge I would see no objection to their learning it.

1945. You advocate chemistry, they would learn it in learning chemistry or in natural sciences?—I don't see any decided objection to it, provided it could be kept within limits and would not interfere with the acquisition of other branches of knowledge that would be more useful to them in after life. I think too many of our people have an objection to trades, I think that is objectionable.

1946. Have you considered the handicraft course, as at present laid down?—Yes, that is what is taught at the present moment. I understand from Professor Carroll's evidence, in Glasgow, that it is about as much as you could expect in this country. In Sweden and Norway they go in for it much more largely.

1947. But they don't do nearly as extensive a course as is laid down for our children under the National Board?—I see they go in very happily then.

1948. They devote more time, but don't cover so many subjects?—That may be. There are certain industries in which there might be instruction given in this country, such as basket-making. I think there is a great opening for that. There is a good and far growing willow and osier, and there is such a demand now for baskets for parcel post.

1949. Should not such a course be rather taught in a continuation school?—Yes, no doubt, but they might get some of the first principles in our primary schools.

1950. Do you know anything of the cause of the failure of model farms such as Balmoral?—I had no experience of that particular farm, but I can explain how farms of that kind would fail where you have to pay a high rate of wages for everything done on the farm.

1951. I don't mean failing to pay as a commercial concern?—Yes, it was not patented. I think there was some kind of prejudice in the country that scientific farming would not pay, those who tried it got tired of it.

1952. But has not the science of agriculture made tremendous strides since those farms were established thirty years ago?—Well the science has made tremendous strides, I am afraid remunerative prices have not made corresponding strides for the farmer.

1953. Don't you think if you had a model farm now you could give more information which farmers generally have not than you could thirty years ago?—It is possible to give more knowledge, but I don't see that that knowledge would be of much use to the bulk of the farmers of the country, here in the North at least, because with our small farmers you see machinery that might be introduced in large farms but are out of place with us unfortunately.

1954. Mr. SMITH.—I think your plan is for the organisation of technical education throughout the country?—Yes.

1955. Instruction in poultry-keeping, knowledge of feeding stuffs, manures and seeds—that instruction would be better given to people already engaged in the industry?—I should say they would understand it better, but at the same time I think the children in school should be trained in the trades, and when they advance a little more they would be better able to appreciate the knowledge they acquire afterwards.

1956. You contemplate external pupils coming to these classes?—Certainly but only outside school hours, in the ordinary school hours only pupils of the school should be instructed, and then over and above that I would give evening classes at which externs should attend.

1957. I thought all this instruction was to be given outside school hours?—No, I make provision that about an hour should be saved from the present programme.

1958. Your scheme is two fold—that there should be afternoon or evening classes for grown people and then classes in the school?—Yes, in the school the principles should be taught and instruction in dairy

out of class books, and in the evening get the practical instruction necessary.

19359. Which of these two do you think would be more practically useful, instruction given to children in the school or instruction given to pupils in the evening?—Of course the evening would be immediately useful, but at the same time I believe the principles are absolutely necessary to be implanted in the minds of children during school hours.

19360. But many of the children in the school might not be going to keep poultry or bees, or have anything to do with seeds or manures?—I think the general knowledge of these things has an educating effect.

19361. You would not teach these subjects specifically?—Certainly not.

19362. I suppose you would distinguish between the instruction to be given to the older pupils who are already engaged in the industry and come there to get tips, so to speak, in their special work, and the instruction to be given to the pupils in the schools?—Unquestionably.

19363. The instruction to be given in the evening would be entirely of a practical character?—I would let them go through the handicraft work with a plane and chisel in the evening.

19364. Take that first the instruction to be given to the older pupils in the evening, that would have to be of a thoroughly practical kind?—Certainly.

19365. And would have to be taught by people who had a thorough knowledge of the subject, such as the ordinary schoolmaster could not be expected to have at present?—I don't agree with you there.

19366. At present?—Well, it is possible that at present the ordinary school teacher would not have it.

19367. Don't you contemplate giving them special instruction?—Yes.

19368. For the purpose of having the school teacher sufficiently instructed in the special subjects so as to be able to give information to the people of his district, you would institute this body of special experts who would collect the teachers in centres and instruct them?—Yes, and give occasional lessons themselves by inspecting classes and showing how the work was done.

19369. Then you want to give some instruction to the younger children, such instruction as would prepare the children to benefit by such instruction afterwards?—Certainly, I would give them technical knowledge.

19370. What we have to consider is what is the best kind of education to fit these pupils to profit by the more advanced instruction later on?—Get your school books arranged so as to contain ample information on the subjects in which they are to be trained practically afterwards.

19371. Do you think it is information rather than habits of study that are required?—It is information at that period, what is the best way to treat this and what is the best way to treat that.

19372. Don't you think what is wanted is rather a good general education?—I propose this to be part of his education.

19373. What do you propose as the object then of this special instruction you are giving in the schools?—In the first place with regard to those who will be required to be engaged in that class of work in after life, that will be the foundations for perfect knowledge later on, and for those who will never require it at all, I think it is no harm to have a gentlemanly knowledge of these subjects.

19374. Might we say of all the education to be given to children in an elementary school, that it should be of a general kind such as would be profitable to the child in after life, no matter what occupation he goes to?—Yes, I would devote only an hour a day to technical work in school.

19375. Don't you think you might attain your

object by modifying the present subjects instead of adding a new one?—I say some of the present subjects could be dispensed with.

19376. Might it not be put in this way—they might be taught on better methods?—That is included in what I say. You might add on some subjects and take away others. You would make a rearrangement of the time and of the subjects.

19377. For instance, you would have more practical teaching of arithmetic?—I don't think you could add much to it at present.

19378. I don't mean add, but changing the character of the instruction so as to lay more stress on exact calculation?—Yes, I see no objection to that; but I would not like to see the present arithmetical programme enlarged.

19379. Not enlarging, but changing, making it more practical?—I agree with you.

19380. And the reading instruction made more practical, and such lessons as you allude to introduced to vary the reading?—Precisely.

19381. Would you consider drawing a necessary part of a good general education?—Absolutely.

19382. You would also consider some instruction in observation and, say, elementary science lessons, object lessons to begin with, followed by experiments later on?—Yes.

19383. That you would consider an essential part of a good general education?—Precisely.

19384. Would you consider some training of the hand in the construction of things also useful?—Yes, that is what I mean by handicraft.

19385. Some extension of what are known as kindergarten exercises of a simple character?—Yes, kindergarten is good as far as it goes, but I agree with some of the witnesses that unfortunately there is a break when a child leaves the infant school and commences in after years some of the subjects of technical education.

19386. It is a pity to think that kindergarten is to be restricted to the infant school?—Yes, it is a great mistake. I have had large experience of kindergarten and I am delighted with it.

19387. You propose having sixty organisers, sixty males and sixty females, two of them attached to each district?—It is possible that fewer might do, in the case of large city schools, where they would not be necessary.

19388. You would not propose starting all these teachers at once, you would begin gradually?—I would say the sooner they are started the better.

19389. Suppose you began by having two for each province, and see how they would succeed?—I think that has been rather a mistake in the past, we are only touching the fringe of the population in all our movements.

19390. You have been going rather on the other tack, starting things on too complete a scale, establishing model schools all over the country and then giving them up?—Model schools were established before my time.

19391. But still it is an illustration of what has been done in Ireland?—I suppose there was no Commission of Inquiry before these were established as there is at present.

19392. Is not that rather a warning to begin any new movement gradually?—This movement may be new in Ireland, but it is not new in other countries. We are behind every other country in the world in technical education.

19393. You have an admirably organised scheme, but it is much more extensive, I think you will find, than in any other country?—The difficulty of getting teachers, I think, is very slight. If the Commissioners issued a printed notice to-morrow to all the first-class teachers, and stated the requirements, they would have plenty of applicants—splendid material—who could get their training in less than twelve months.

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Belfast.
Oct. 15, 1891.
Right Rev.
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18384. Do you think twelve months training would be enough?—I should say so, and with regard to dairy business, much less.

18385. That would be a matter for experiments to test. I am referring to the effect those teachers would have when they got out to the country. On the face of it, it is a very promising scheme, but it is new, and people don't quite realise what it is. Might it not be well to have its usefulness thoroughly established by experimenting in a few districts first?—As a matter of fact, we have experimented in dairy business in a small way, and the only drawback was that the classes were not sufficiently general to be appreciably felt.

18386. Did you find the dairy classes well attended?—Very well attended, at first there was some difficulty but before long they were well understood.

18387. Would you not think some local contributions should be made towards the support of these teachers?—I am afraid it would be very unpopular. Suppose we were a very rich country, I should see no objection to pay in fact I have always felt that giving things for nothing is not a good plan in Ireland, but this would not come to anyone's door more than another's.

18388. Do you know it is a general principle of the Education Department in England and Scotland that they only contribute one penny, for one penny, if one penny is contributed from the locality, they give one penny from the State funds. Perhaps it would be too much to expect such a large proportion in Ireland, but would it not be fair to make a condition that there should be some local contribution?—Unless you intended it as a tax that can be enforced there is no possibility of raising it otherwise.

18389. Would it not be a good plan that this experiment should be started in districts where the people would be willing to contribute something?—There are very few such districts in Ireland. There is a feeling that we have not much money to spare for anything at present.

18390. Captain BURN.—Are there any instances of rates being levied for technical education?—In a few large cities; but I would like to see you attempting to levy a rate in Cookstown or Dungannon.

18391. Mr. STRATHEER.—There is a technical education rate levied in Galway?—I suppose it is very trifling. It is possible we might be willing to give a trifle.

18393. Don't you think if people did give a trifle to the starting of these centres they would take a keener interest in them afterwards?—I agree with the principle that things we pay for we appreciate better.

18403. And you think it desirable that people should contribute the trifle?—I agree with you so far

18404. Rev. Dr. EVANS.—We are not a Technical Education Commission, and very much of the information with which you have favoured us, is more appropriate to technical schools than to primary schools in Ireland. What we want to ascertain is how we may introduce manual instruction into our National schools and make it a part of our primary system for educating children all over the country. Can you make any suggestion that would help us in regard to that?—Nothing further than what I have said with regard to manual instruction—that is, that I should wish to see every National teacher in Ireland trained thoroughly himself in the more elementary principles of chemistry, so that he could teach his class afterwards.

18405. Have you considered the present programme of the Board for school purposes?—Yes.

18406. Would you wish to see it altered or modified in any way?—No, I think if it were carried out universally—that you see it leaves many subjects called "extras" to the option of the teacher, and the teachers will take up whatever subjects will pay them best, as is natural enough.

18407. You said to Mr. Stratheer that you would not be in favour of increasing the programme in arithmetic, but rather in favour of cutting it. Do you think there is enough of the theory of arithmetic taught?—Unquestionably too much for the vast majority of our children.

18408. Have you looked much into the questions that are given in schools at results examinations?—Yes, we have had practical experience ourselves in test examinations for our Academy.

18409. And you think those are of a practical character, and show there is a theoretical knowledge of arithmetic?—Yes.

18410. And they are not put from certain books made up of questions of all sorts and types, and the children taught to work these, while at the same time they are entirely ignorant of the principles of arithmetic, and could not reason them out?—I partly agree with you that perhaps the knowledge is not sufficiently practical.

18411. Now would it be possible, do you think, to have dairying taught in connection with our National schools at all?—I should say so.

18412. And would it be possible to have poultry management taught in our primary schools?—Certainly.

18413. How would a male teacher teach it?—In my scheme I reserve that for the female teacher.

18414. Have you seen our Agricultural Text-book—the new edition of it?—No, I have not.

18415. But it would be easier, I suppose, to teach something of the theory of arithmetic in the schools than to teach agriculture?—Yes.

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MR. WHELEY FORMER, Teacher, Tullymore National School, Belfast, examined.

18416. CHAIRMAN.—You are a National school teacher?—Yes.

18417. Where is your school?—Four miles from here, out at Knock, county Down side.

18418. What assistance have you in the school?—I have one woman only.

18419. Have you been teaching a long time?—Twenty-nine years.

18420. Are you favourable to manual instruction in National schools?—If the present programme was so modified and improved as to allow it, I would be.

18421. You think it would be an advantage?—Yes, I do.

18422. Would it be any advantage to the teacher himself, do you think?—My opinion is that all teachers would have an interest in it; whether it would be an advantage I don't know.

18423. With regard to the programme, would you curtail some of the subjects?—Yes, I would curtail

them all very largely. I would take the useless matter out of them and keep what is useful.

18424. That answers implied, from your experience as a teacher, that there is a considerable amount of useless matter in the subjects you have to teach?—Yes, sir, I am of that opinion.

18425. You would be in favour of the introduction of science?—Yes, I would be very strong on that point.

18426. What description of science would you introduce?—The particular science would, of course, depend on the localities where it was taught, leaving perhaps some relation to the industries of the people in the localities.

18427. It would vary would you say with the locality?—Certainly.

18428. Rev. Dr. EVANS.—How long are you a teacher?—I am twenty-nine years old in the service of the Board.

19433. You are in the first class?—In my twenty-first year.

19430. Have you begun to give explanation of reading in your school?—I don't remember when I began to do it. I always explain reading but I have never begun to prepare for the new examinations in reading, that is, I mean to say that I have not begun to explain every word in the reading book, word for word.

19431. Well, you know that special explanation is required now?—I do.

19432. And you have got the circular about it?—Yes.

19433. Well that takes more time from you?—If I spent all my time at reading every day in the year I could not teach reading to pass one paper if the inspector chose to take the largest view of the new programme.

19434. Well, if the programme was large enough before, and if it is enlarged now by special explanation having to be given in connection with reading, how would you suggest the introduction of manual instruction?—where can you find time for it?—First I would make the programme right, and then I would introduce manual instruction afterwards.

19435. And what would you do now to lessen the programme?—I will tell you my own work. I commence at half-past eight in the morning and work to four o'clock, and I have done that for the last sixteen years at any rate.

19436. What is the average attendance in your school?—For last year it was sixty-five.

19437. And you have no assistant?—No assistant.

19438. And you have to teach your sixty-five children in nine classes?—Yes.

19439. Well, you have got a pretty severe burden on your back?—I have it so severe that I cannot do it. I can only pick out the parts that will be most useful on examination day; I teach those and leave what cannot be done behind.

19440. I understand that you are in favour of manual instruction?—Certainly.

19441. What benefit will accrue to the children who receive it?—It will make them more generally useful at home in their domestic relationship, a little acquaintance with tools should enable them to dispense with tradesmen in trivial repairs in their after life.

19442. It will improve them in self-act?—Yes.

19443. It will sharpen their wits as well as make them more handy with their hands?—It will.

19444. It will enable them to see more correctly—a great many people stare, they don't see?—It will make them more observant, and that is one thing we neglect altogether in our school education.

19445. Would it enlarge their capacities generally?—It would in this way, that it would make them more useful, supposing they went out as farm labourers, if they could do a little repair to a bit of machinery that got out of order. A tradesman might otherwise have to be called in for what a little handiness would repair.

19446. Would you be prepared to hear that in places where it had been introduced the ordinary subjects of the programme were better taught, the pupils had better acquaintance with them, and the ordinary instruction proceeded on rapidly?—Yes, I would expect so.

19447. You sometimes try to improve the quality of the potato?—Not sometimes, but I have a hobby for that sort of thing. I don't take it in fits and starts. I go on with it.

19448. You go at it systematically, and endeavour to produce results that are scientifically reached?—Yes, my aim has been to get a disease-resistant tuber.

19449. Where did you find time when you teach from eight in the morning until four in the afternoon, where is the time for hybridising and planting varieties, and bringing them on, and testing them?—From four o'clock in the afternoon is a long day to slack in the summer evenings, and it is a change

of labour, and I don't find I am any the tinder at ten or eleven at night than I would be when coming out of school.

19450. Do you teach drawing?—Not lately; I had to throw some things overboard that I formerly taught on account of the pressure of work.

19451. Would you like to see drawing taught in all schools?—Not the kind of drawing that is taught just now. I would like to see a modified programme in drawing, for example, our drawing is altogether freehand, and our pupils are taught freehand; of course it is a very useful training for both eye and hand, but I think if there was less freehand drawing, and some use of the ruler, and laying down to scale was introduced, I think it would have an advantage.

19452. Are you in favour of elementary sciences being taught in National schools?—Certainly.

19453. How would you go about it?—what would be your plan for giving elementary instruction in science in National schools?—If our present programme was modified, and the quantity as much as would create an interest without making it a drudgery to the pupils.

19454. What would you leave out of the present programme?—I would leave the grammar out altogether, at least I would make it an extra. I would leave grammar, so that schools where it was desirable for grammar to be taught, might have it. I would make the present grammar optional, and I would introduce some practical grammar—that is grammar that children from eight to ten could understand—in the construction of sentences and something that would be of use to them.

19455. What else would you leave out?—The geography should be modified. I don't see that there is any advantage in making up lists of towns and lists of mountains.

19456. Would you omit any arithmetic?—In the ordinary course I would leave out all arithmetic except the simple and compound rules, Reductions, and Fractions, and I would make the other arithmetic an extra subject.

19457. Have you a school farm?—No.

19458. Nor a school garden?—No.

19459. If you are able to carry on these valuable experiments without either a school farm or a school garden, might not other teachers do a little more who have these?—Well, I have a garden, but it is not a school garden, the Commissioners have no control over it.

19460. They don't pay fees for it in any way?—No, they don't recognise it as a school garden.

19461. Is there anything else you would like to say with regard to your potato work that would be useful to me?—I don't know that I have anything to say about it; of course I have a high opinion of its quality, and all that.

19462. Could such experiments as you have conducted be conducted to any good educational purpose by other teachers?—Certainly; I am sure anything of that sort would be useful and interesting. I know it would be interesting to the pupils. Our agriculture as at present taught is far too extensive. We have a large book to teach to young children, and we have a lot of matter in it that is not of practical utility.

19463. Could you specify the part that is not practical?—We have a list of names of crops and quantities of seeds per acre that, as soon as the examination is over, they forget all about. And our energy is directed towards getting up those lists, and trying to remember them, whereas we might be profitably employed in teaching simple principles and things that would stick to them through life, and prepare them for understanding a more advanced course in the subject afterwards.

19464. Mr. SHERRIN—I think you are in favour of making the general education given in schools more practical?—Yes, that would be my view.

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19465. You think the subjects that are at present taught might be more practically taught?—I think they might be taught.

19466. I am speaking, not under the present conditions, but generally, it is conceivable that they might be taught in a more practical way?—My opinion is that they are not taught at all now.

19467. Then there are certain obstacles in the way of their being taught?—If the quantity of work was such that it could be taught, and taught effectively, it would be a great advantage.

19468. I was struck by a remark you made that you have always taught explanation of the reading lesson in your school, that is, you have always questioned the children on the meaning?—Yes, the general meaning of the passage they read, I made that my first point to attend to.

19469. But you think something new is demanded of you?—Yes, the meaning of all the words in the reading lessons are to be taught now.

19470. Is that distinctly laid down?—If the children come across a word of importance in their reading lesson, they must know the definition of the word, and repeat it to the inspector at the examination?—Yes, the inspector may ask them every word in the reading lesson, and, as a rule, it will be the words that occur most frequently that will be asked.

19471. Is that not likely to lead to a great increase of memory work in schools?—Yes, it must lead to that if it is attempted at all.

19472. And do you think it is as valuable as what you have been giving them already?—No, I don't think it is any more valuable.

19473. Do you think it is of value at all?—I don't think it is.

19474. If the children can give the general gist of a passage they read that is sufficient?—I think so; I think that in all they would require in after life, if they had a general understanding of what they would read, and be able to express themselves.

19475. In order to explain to children the meaning of a passage, it is often very useful to use grammatical distinctions; it is the simpler way of pointing out the meaning of a passage to analyse it, and so how the various phrases hang together?—Oh, certainly, that would be an assistance in the upper classes, but for the lower children, you cannot.

19476. Naturally. But grammar taught in that way would not be a great addition to the reading lesson?—No, it would not be.

19477. Such elementary knowledge of the analysis of sentences as would enable children understand the general structure of the sentences they are reading?—Yes, that would be an advantage, and it would not be a very large increase of labour.

19478. You think that exact calculation might be encouraged in the schools?—Yes, that is what is most neglected now and is most needed; for instance, boys coming into town here require very little arithmetic, except long totals in addition and such things.

19479. And there is no encouragement to teachers or pupils to study that form of arithmetic?—No, we have no time to do it; we have to get over the whole subject.

19480. If a pupil does a certain proportion of sums on a card correctly, you get as much credit as if he showed great expertise in mental arithmetic?—Yes, we get no credit for mental arithmetic at all.

19481. Then a change in the method of examining would enable you to teach that subject more practically?—It would.

19482. If an inspector were asked to give as much attention to the method of teaching as to the whole results, that would enable you to make the teaching more practical?—Yes, our programme at present in our inspectors; we don't look for the printed programme.

19483. On an inspection, what is inquired into—the results purely?—Yes, questions asked on the various parts of the programme.

19484. Does the inspector ever see the method by which the teacher gives the instruction?—In my experience I never had an inspector present at instruction.

19485. Does he make any inquiry as to how the subject was taught?—No, I don't think I ever was asked any questions about that.

19486. He simply examines the pupils, as a rule, on the programme they are supposed to know at this particular period of the year?—Yes.

19487. Then you would also be in favour of having drawing taught in all schools?—I would.

19488. And simple lessons in science?—Yes.

19489. And some form of manual instruction?—Yes.

19490. So as to make the education of the pupils more practical?—Yes.

19491. And give them a good general education?—Yes, a run through a workshop alone would be of use; if they had the tools lying about they would use them themselves without having any instruction, in fact, it was the way I got my own interest in manual instruction.

19492. That might be what a witness called yesterday, the associative use of tools?—It might be called that.

19493. You would not teach the associative use of tools?—No, we have a programme at the present time of manual instruction that might be taken advantage of.

19494. Don't you think that programme might be modified with advantage?—Yes.

19495. It is very extensive?—So extensive that nobody in their senses would undertake to teach it. The programme for girls—what is called the Industrial programme—I might say about that that you could not earn as much as it is worth by material.

19496. Captain Shaw.—What is the highest class you have in your school?—I have all the classes represented.

19497. Would you be in favour of a grouping of classes for instructional purposes?—It would be an advantage, but it cannot be done under the present system.

19498. We will leave the present system out of account altogether, would you consider it would be an improvement?—Certainly, it would be a saving of labour, and should be a great advantage to be able to give three or four classes the same attention collectively that would be devoted to the classes individually.

19499. If you were at liberty to group your school, say, put two or three classes together, that you thought most suitable, and if the programme were modified in the directions which you suggest, do you think you would be able to teach drawing and elementary science, and some form of manual instruction throughout your school, as well as the subjects which had been modified?—Yes, I believe I would have quite enough time to do it, and to do the literary work quite as well—better than it is done.

19500. Do you think that manual instruction throughout the school would give the children relief and at the same time sharpen their intellects?—Yes, it would be a change of labour, which means a recreation.

19501. You say your inspector does not study your methods very much—do you have to study your inspector's methods?—Yes, my whole energies are directed in that way.

19502. Mr. MOLLAY.—With reference to your answer to Captain Shaw that at present there could be no such thing as grouping of classes under the present programme, what difficulty would you have in grouping 4th, 5th and 6th classes for certain subjects such as grammar and geography?—We can group them for certain subjects and must do it; for example, in the higher classes in keeping them up in the programme they have passed through, we can put them along with the lower classes, but that is only to keep them up in the classes they have passed through.

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19003. But that is only to keep them up in the programme of the classes they have passed through. You are aware an examination goes back, so as to include the previous portion as well?—Yes.

19004. But that concentrates the time largely in its hope that particular class from being idle, that particular class that has passed through the lower one.

19005. You refer to the recent regulation with regard to explanation in connection with the reading lesson?—Yes.

19006. Is there any substantial difference between the recent instruction and what was always laid down as an injunction by the National Board, namely, that pupils should be acquainted with the meaning of words and phrases and with the subject matter of the lesson read—what difference do you establish between that and the publication of the recent instruction?—It all depends on the interpretation—"instruction" might be interpreted to mean anything.

19007. In the recent circular?—Yes, it certainly gives the liberty of asking every individual word of the lesson book.

19008. But the old programme, that you rather praise, and that you say you carried out practically, was that the pupils must be acquainted with the meaning of words and phrases, as well as the subject matter of the lesson. I am reading from the code in force for the twenty-five years?—That instruction did not refer to the pass mark at all.

19009. That is a different matter—I wanted to bring that out from you—but was it not laid down as an injunction as regards the method of teaching the subject?—Oh, yes; it was always understood that the meaning of words would be taught.

19010. And did it not form a practical part of the inspector's examination?—Yes, always, the meaning of words.

19011. And the subject matter, the general drift of the lesson?—Yes; each subject is divided into several parts, there are subheads there in the pass mark, which of course, is the important thing in the eyes of the inspector.

19012. Would you not think the important thing, not so much the fact, as to make the subject intelligible and teach the child properly?—Yes, I think that would be carried out by a child understanding the general gist of the sentences, rather than that he should be able to go into each word and give a detailed meaning for it.

19013. My point is this that really all along, since the establishment of the marks system, explanation ought to have formed an important part of the instruction and necessarily formed a part of the examination by the inspector?—That is so.

19014. So that, strictly speaking, the publication of the recent instruction did not lead to any fundamental difference on that point?—No, only it makes a difference in what is called a pass mark, it makes it possible that we won't get any pass in reading at all.

19015. But you yourself mentioned a while ago that it was your practice all along the line for the last twenty-nine years to give instruction in the meaning of words, and especially in the drift of the passages?—Especially in the drift of the passages, but now, according to that rule rather special attention should be given to the meaning of words, and it would be more important than the meaning of the passage.

19016. I think you will find that it rather amalgamates the two, with regard to the payment of the fee, it substantially leaves the necessity for giving instruction in explanation pretty much as it was before?—Yes; it is just in the same position as before, only it has altered the situation of it.

19017. Similarly, you mentioned that no credit was given for mental arithmetic. Is it not set forth in the programme, and an obligation on the teacher to teach the subject, and on the inspector to examine?—Oh, yes, but it has no part in the pass mark.

19018. May I ask you your opinion on this point, you mentioned subheads not coming under the pass mark, assuming that the teacher confined himself

exclusively to instructing pupils in what would carry a fee, would you call that school well conducted?—I would not, the subheads form an important part, but since a part of the subject carries a fee, that part of the subject must be more important than the others which do not.

19019. Mr. SMITHSON.—Would you get any less grant if you did not teach the subheads?—It won't alter the grant at all.

19020. Mr. MOLLER.—But if you omitted to teach these subjects, would it not lead to a cancelling of the result fees?—Not so far as I know, there is no credit or discredit attached to the teaching or non-teaching of them.

19021. You mentioned generally you would alter the present programme; in what way would you alter it?—In the reading, for example, I would confine the teacher's attention principally to the explanation of the passage, and I would leave grammar out altogether, except I would make it an extra, so that it might be taken in schools where it was an important subject. There are some schools where the children have so early they cannot have any practical knowledge of grammar from grammar as it is taught.

19022. That might be rather a defect in the method of teaching than arising from any other cause. In your memorandum you say you think the introduction of manual instruction is desirable?—Yes.

19023. And you would also advocate the introduction of elementary science?—Yes.

19024. That drawing should be taught in the schools and drawing to scale?—Yes.

19025. I think you mentioned a while ago that there was nothing but freehand drawing provided for heretofore in the National schools?—Nothing, except that in the upper classes there is a little shading.

19026. Was there not drawing from objects in outline, easy practical geometry, and the principles of perspective?—In the 6th class there is, but below that there is nothing of the sort, and very few of our pupils reach that class, so that practically it is what I said at first.

19027. May I ask do you attend as representing the views of the Belfast Association?—Oh, no, I just represent my own views.

19028. Mr. SMITHSON.—You have 65 children in your schools?—Yes, the average for the last year.

19029. You have no assistant?—Have you a monitor?—Just one.

19030. Would it be any assistance to you in your work to have the pupils up to class 3 dismissed rather earlier?—I always dismiss them half an hour earlier, I always have done it up to 6th class.

19031. At what time do you dismiss them up to 4th class?—Half-past two.

19032. And you keep the 4th class and upwards going, how much longer?—It very often extends to 4 o'clock, I am never out of the school until 4 o'clock.

19033. Then it is permissible to dismiss a part of the school up to 3 o'clock?—Yes, we are only confined to four hours work in the school, and anything beyond that may be called outside school hours.

19034. Would it be an advantage to you to have only three and a half hours work for classes up to 3rd?—No, I don't think it would; I think I could not get through the work in any less than four hours.

19035. Mr. MOLLER.—In view of the great attention that you have paid to the cultivation of the potato, may I ask you the size of your garden or farm?—Altogether about three quarter acre.

19036. That is not connected with the National Board in any way?—No.

19037. Have you any difficulty about connecting it with the Board?—I made an application to have it recognized by the Board, but I was refused on the ground that I was unqualified to give instruction.

19038. Have you been trained yourself in agriculture, or been at the Glanvin Insurrection?—I never was at Glanvin but I have trained myself in agriculture and know a great deal about it.

19039. Supposing you were willing to come to

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Glasgow for a short course of six or eight weeks, would you still have an objection to connect your garden with the Board and participate in some advantages?—I would have no objection; the only difficulty is about the qualification.

19540. I take it for granted that being a socialist as regards the points you ought to have no difficulty about the certificate, you can come up during your vacation?—Just now I have never had time, my vacation is taken up with gardening.

Rev. GEORGE MACGILL, Presbyterian Minister, Belfast, examined.

Rev. George
Macgill.

19541. CHAIRMAN.—You are a Minister of the Presbyterian Church?—Yes.

19542. Your church is situated in Belfast?—Yes.

19543. How long have you been in Belfast?—I have been seventeen years.

19544. Are you a manager of a National school?—Yes.

19545. What are the numbers in attendance at it?—I could not say exactly, but I am sure it is above 100.

19546. Have you had any experience as a manager elsewhere?—Yes, I had some six or seven schools under my care when I was minister of First Antrim, and also I had a large school when I was a minister in the city of Cork.

19547. Would you propose any change in the subjects taught in the National schools at present, or would you leave them as they are?—I think I would rather see the subjects diminished, and I would rather see the pupils brought up to be something like experts in a few prominent branches than see them having only a moderate knowledge of a great number of subjects.

19548. Now would you specify some of those prominent subjects that you would select?—I would say, of course, the common subjects that all are agreed on almost—penmanship, arithmetic, composition, grammar, geography, especially basing upon the great highways of commerce, illustrating our connection with our colonies and the nations of the East and West, with which we have trade—but I would not have pupils crammed with minutiae about tides and the lengths of rivers, and the heights of mountains, or matter of that kind.

19549. What modification would you make in the mode of teaching grammar, or the extent of it?—I don't see how any boy can ever understand, what I would call correct composition, except he is to a certain extent a fair grammarian, and because writing accurately the English language helps to lay in anything like an educated man's make-up, I would be anxious to see composition laid great stress upon.

19550. Would you teach shorthand and type-writing, and the like?—I would teach shorthand, but I would not teach type-writing through our schools in general. And shorthand, possibly, I would confine to our large towns and cities.

19551. Would you advise the teaching of handicraft in our ordinary schools?—It may seem strange if I should perhaps say I would not. In the first place, I think there is little enough time for boys and girls to get the literary education such as would fit them for life. I think that they could be taught handicraft better elsewhere. I have visited schools where handicraft is taught—I don't wish to give any names—but I am not prejudiced in favour of handicraft from what I have seen.

19552. Mr. SKECHUM.—In this country?—In this country. I believe that what Mr. Cooke has said about drawing applies to handicraft. He said that he would rather begin to teach a child or teacher do so than one who had been badly taught. And when I take into account that those who have been empowered to teach handicraft have never given any evidence of what they could do with their own hands, I would be afraid that an expert master joiner would say, with regard to those whom he had taught joinery work, that he would rather begin de novo. And if I also was looking into a matter that, perhaps, has not been brought prominently before you, that no matter what you teach these boys in the way of

handicraft the Trades Unions would not permit you or employers to shorten the period of apprenticeship. I was hoping that something would be gained if employers would accept a shorter apprenticeship, but I find that no matter what would be the wish of the employers, the Trades Unions would not permit it, as there must be a certain number of journey-men in proportion to the number of apprentices that would be accepted.

19553. CHAIRMAN.—As regards the present hours of the National school teaching, are you satisfied with them, or have you any change to propose?—When I take into account, Mr. Chairman, the number of hours, I must say I cannot understand how anything could be grafted upon our present work. I find that if a pupil comes to school anytime before eleven o'clock he gets credit for four hours instruction, half an hour in addition to that is out of for recreation, which leaves two and a half hours for secular and moral instruction, and when I take into account, especially in a female school, that perhaps two hours in addition to this are taken off, it does not require much mental arithmetic to see what is left.

19554. Then you don't approve of not calling the roll until eleven o'clock?—I think no boy should get credit for being present a day except he is present four hours, the same applies to girls.

19555. Would he not be present four hours if he came at eleven and remained until three?—You require him to come at ten and leave at two.

19556. Have you anything to say with regard to domestic economy?—I think that is one thing that might be taught with great advantage to our girls, how to manage their own homes—cottages or superior houses, that they may happen to belong to—but I am not so sure that it is any advantage to the country at large for girls to be taught ecclesiastical embroidery, and these finer things that can only be of advantage to a very limited extent, but plain sewing and domestic economy I would approve.

19557. Cookery, I suppose?—No, I don't see how you could teach cookery in nineteen-twentieths of our schools, however desirable it might be.

19558. Mr. MONROE.—You referred a while ago to ecclesiastical embroidery as an unsuitable subject?—It only just occurred to me as an illustration, or any other handicraft that would be only of local advantage.

19559. But while there are sixteen stories mentioned in that industrial programme, it is not a fact that the instruction is practically confined to plain dress-making, under-stitching, knitting, crocheting, and repairing of garments?—I admit that is true, but my aim is that for the children of the peasantry—and these form the overwhelming majority—you should take into account only what would be of advantage to the great overwhelming majority—and I would say that if they get a deft use of the needle, that that is about the utmost I would devote to handicraft for the girls. They will have an opportunity of getting a knowledge of handicraft afterwards, but they won't when they go to learn a trade be able to pick up literary knowledge.

19560. But it was never intended, in connection with the alternative industrial scheme, to teach trades?—I think one of your own expert witnesses says that the tendency is to teach trades, as you wish to conduct it.

19561. In the case of the sixth class girls they are expected to be able to cut out a shirt and an article of female apparel, you would not think that going

too far!—Well, if it took much of their time from what I would call the brief packets, now that they are allowed to get a literary training I think it would be a mistake.

19563. Referring for a moment to the industrial programme, if it were confined to those elements I have just read out, plain dressmaking, suitable for a National school pupil, repairing garments, and making stockings, socks, petticoats, and so on, you would not think that too extensive?—It depends altogether upon whether you think that you will have sufficient time for the girls to get such a literary training as we have a right to expect—which we, the taxpayers, have a right to expect they should get.

19565. Of course you are aware, as a manager, and a manager of great experience, that it is absolutely in your power, and, under your direction in your teacher's power, to confine the instruction to such things as I have read out?—Yes, but that leaves too much to the discretion of the manager. I might, as a well-willed manager, adopt one course or another. I think the Commissioners of National Education are standing between the parent and the taxpayers, and ought not to leave such a responsibility as that in the hands of the manager.

19566. A previous witness referred to the establishment of a local association of managers as an advising body to the Commissioners of National Education in Dublin; would you approve of that?—I think it is a great pity that managers have not that intercourse referred to there. I think it would be a great advantage if managers met and compared notes, and had the advantage of each other's experience.

19567. Do you think an hour a day is too much to give to needlework, we have heard in England it is confined to three hours a week?—I would confine it, perhaps, to less than that, if I had my will, simply because needlework can be learned afterwards; but when a child of the peasant class leaves school she need not hope for so; thing more in the way of education, and, besides, if you only get the minimum amount of knowledge with needle or any other form of handicraft that will soon be forgotten.

19568. If I mistake not, your answer a while ago, sir, was that you would not advocate the introduction of manual instruction into schools, as it might lead to trade and cause a chinking with trades union associations?—Yes, sir, I have endeavored to understand the subject with whatever little ability I have, and I have come to the mature conviction—as far as I can say I have a matured conviction when it is my own—that it would be a mistake. There is a department in which I believe great service could be rendered by the Board, and, if you will excuse me, I will refer to it. I don't refer to scientific agriculture, because that is away from the point, but I do think a great deal could be done if the principles on which dressmaking should be conducted were taught boys. If they were taught that either from a few forest trees, such as Austrian pine, would raise the climate, and if they were taught also to know that all the waste ground in hedgerows might be utilized by growing daisies and plums and apples and pears; and if they were taught to graft they could have the white-thorns of the country grafted with pears. You would have an enormous amount of fruit raised, you would have the climate of the country raised, you would have the land drained, and then, perhaps, you would be ready for scientific instruction.

19567. Then you would make an exception in the case of agriculture?—I would make it an exception just so far as these elementary points.

19568. Would you be in favour of the introduction of physical science?—I would be in favour of two things—first, the developing of the intellectual faculties to the utmost, and I would like calisthenics, or whatever it might be called, for the development of the muscles, and if I got a good healthy body and a well-trained mind I would rely on the healthy body, and the trained mind for picking up a profession afterwards, or a trade.

19569. Is kindergarten taught in any of your schools?—It is being taught in my own school, but it is only lately commenced; I don't express an opinion about it; I am not very sanguine about any great advantage from kindergarten except in so far as it leads children to come to school, and that school work is not hateful to them. When it leads to that I think it is good, but I am not very sure about any great advantage gained afterwards.

19570. Would not that be a great advantage in itself?—If too much time were not taken up I think it would be a great advantage, but I think one of your own experienced that he was not aware that a child that had passed through kindergarten was a smarter boy than when he or she came to the fourth, fifth, or sixth—not one whit smarter than those who had not passed through kindergarten.

19571. I don't know that I would call him an "expert," I suppose one of the witnesses—I mean a professional educationalist.

19572. Briefly, with regard to the results system, do you propose any change?—Yes, I would propose this change—I think the results system should have two grades of payment, I think for a mere pass I would allow what you allow at the present time, and by way of stimulating teachers to pay attention to clever boys I would give 1s a head, or whatever you might think was necessary to be a sufficient stimulus to make the teacher pay extra attention to boys who had extra ability.

19573. A former witness made reference to the advisability of having prizes for pupils who attended punctually; would you approve of that? I would be strongly in favour of the inducement for the elementary system that is held out in connection with the Intermediate system. I think these are prizes given in the Model schools, and I think the other schools should not labour under any disadvantage.

19574. Almost universally prizes were given in the Model schools some years ago, but the practice has been discontinued by the Commissioners?—I was not aware of it. If you would excuse me, I think it would be a great advantage that the assistants in our ordinary schools should either get full pay for their classification, or, at any rate, pay up to the first division of second class. You want the status of teachers raised, and you want them more able to give instruction, and I think that while assistants are treated as step-boys in ordinary schools as compared with the way they are treated in Model schools, you don't encourage these assistants to work as they otherwise would do.

19575. You would advocate the payment up to the highest division of second class?—Yes.

19576. You would not advocate the payment of first class salary, the same as to the principal teacher, because the principal teacher has the responsibility of conducting the whole school?—Yes; there are many reasons why I don't think the assistant could reasonably expect to be put on the footing with the principal, who might be first of first.

19577. You made reference to a pupil who earned a No. 1 pass, that that boy ought to get a higher fee than a boy who got an ordinary pass, what about the pupil who undergoes no examination at all, on the occasion of the Inspector's visit, not having made a sufficient number of attendances, how would you provide for him?—I don't really know. If you provide for them you practically devalue them almost to the status of those who have attended well and answered well, and as I have not thought on that I would not like to hazard an opinion, but I would not like to make the others think that those who had not attended the same number of days had a right to the same favour or anything like the same favour.

19578. You would not think of accepting a smaller number of days—say over two years in the case of irregular attendance?—I have not been thinking of that and would not hazard an opinion.

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19575. Would you advocate any change in the present method of examination, have you turned your attention to the propriety of having class examination in certain subjects?—It is possible, but I don't see how an inspector can know whether boys have been well taught or not, except the inspector asks the boys, I must say that, and there would be room for a certain amount of smart management if each boy was not examined.

19580. But in certain subjects he might be able to say "That subject is very well taught by the instructor and I am disposed to award the full fee, although I have not examined all the pupils?"—The inspectors ought to be better judges than I would of that matter, and I would not like to commit myself.

19581. You are in favour of an individual examination?—I am in favour, but I don't mean to say that I am so much in favour, I am aware that in England they examine by classes, but we are something better than in England, we might be in advance of them.

19582. Mr. Smeeth.—Perhaps you are aware that they changed the other system in England and changed their opinion?—It is quite possible that efforts might have a great deal of influence in changing, and if they got the change brought about the teachers and their friends and the inspectors might not be the better of it.

19583. Mr. Muller.—Would you be disposed to advocate the propriety of paying on the average attendance of the pupils rather than on the individual examination?—Take any school of your own, what is the name of your principal school?—Avenue-street.

19584. In that school what is the average attendance?—I should say it is about 300.

19585. Would you prefer that the whole payments should be on that average attendance and a general report as to the efficiency of the school rather than on the result of an individual examination once a year?—I think that there would be great room for getting in a proper attendance, and there might be very good attendance and no very good teaching, if you adopted that method. I would be afraid of that. But the question involves an answer which might be a reflection upon the teachers, and I don't like that.

19586. Mr. Ransome.—If the payment were made on the average attendance, might not the quality of the teaching be tested by constant visits on the part of the inspector?—Perhaps, but you would require to multiply your inspectors greatly if you looked into it.

19587. But if the inspectors were relieved to a large extent of the task of examining each individual child would they not have more time for visits of inspection?—Of course they would, but I don't think that payment by results of the examination of the individual pupil has got a long enough test here, and before I would make a change I would want to see it tested a little further.

19588. You are aware that it takes up a great deal of the inspector's time, and it is very desirable he should have more time than at present for incidental visits. Could you suggest some better way of conducting the examinations?—If a man is a candidate for any public office he is tested by personal examination, and I am not sure that there is any other method by which you will know how a boy has been taught than by personal examination.

19589. If, say, half the boys of a class were examined would not that give you a very good idea as to the efficiency of the teaching?—There is no doubt of that, there is no doubt that if half of the boys taken at random were examined and answered satisfactorily, no doubt on the theory of averages any person would say the class had been very well taught.

19590. We are not giving prizes to the individuals but we are giving payment to the teacher, so the case is not quite parallel with that of competitive examinations?—No, but what I meant was that it was the way to test the knowledge by the individual examination.

19591. And you don't think it would be safe to test the knowledge of the whole class or school by examining only a portion of it?—I think if you will examine half the class you will be fairly justified in inferring that if those answered well the class had been well taught and that the other boys could answer in like manner.

19592. Now, as regards the hours, then a pupil spends in the school you said I think that it is possible for a pupil to spend only two and a half hours at literary work?—Yes.

19593. I may inform you that we have had that under consideration, and a change has been made lately in the rules in the direction that you advocate. Has your experience been in the country as well as in the city?—Yes, but it is so long ago now, it is twenty years ago, I don't think that matter of handicraft teaching was before us as managers so prominently as it is now, if it was at all.

19594. I am speaking generally as to the subjects that are suitable for country and for city districts, do you think there ought to be a different programme for each?—The only difference I think I would make would be that in cities I would have shorthand taught, and in large seaports I would have navigation taught, so that where a great number of boys are going to sea, if the captain was washed overboard, that with very little experience of seafaring life they might be able to bring a vessel to port.

19595. Do you think it right to allow agriculture to be taught in city schools?—I don't think it is the slightest use.

19596. Is it taken up in Belfast schools?—I have not.

19597. You gave some suggestions about the mode of teaching agriculture in rural schools—did I understand you to say that you would not teach elementary chemistry or elementary physics in connection with agriculture?—Yes, sir, you understood me right, simply because all that you would teach, all you could teach or cram would be so soon forgotten, and the time would be better occupied, I think, by teaching the things to which I referred, and they would be reduced to practice so soon and become profitable so soon.

19598. Is there not a danger that what is in the agricultural text-book would be crammed into the pupil and not retained by him in an intelligent way?—My observations went in the direction rather of disapproving of anything in the nature of a training of a boy up in knowledge of agriculture.

19599. Then you don't approve of learning from a text-book without experiments?—I think that in the meantime as much theory as they could carry away and keep might be taught, we might safely trust their parents and their own smartness to acquire a good deal more than you would likely teach them by experiment.

19600. You advocate pupils being taught how to make drains and plant trees?—How to make drains and plant trees for shelter round a small farm and withing hedges that are not being stibbed at all, by having daffodils and plants, which will grow readily without any cultivation.

19601. Would you give up the teaching of agriculture out of a text-book?—I don't say exactly that, but I would give the minimum, just about as much as I would imagine children would not forget.

19602. You said it was impossible to teach cookery in nineteen-twenty-six of our schools?—I think it would be impossible to teach it where it would be most required.

19603. Take a city school, what would be the difficulty there?—The difficulty would be in the first place in getting a room, a kitchen, and the apparatus, and I suppose the next thing would be when girls grow up to a certain age in a place like Belfast they get remunerative occupations at a time when they could be taught cooking.

19604. They can be taught cooking in fourth, fifth

and sixth classes do not girls remain at school to attend those classes?—Not many stay in Belfast for sixth class.

19005. Do they not attend in fourth class?—Oh, yes.

19006. Under the late regulations you can get a fee for cookery in fourth class. What would be the expense in Belfast of setting aside a classroom for two days a week for that purpose?—Not supposing, and this is what actually is the case, supposing all the available ground is built on round a school-house.

19007. CHAIRMAN.—In the Board schools we have been in in England they have not a separate kitchen, but a stove put up in one of the class-rooms and tables adapted?—I was just going to say, in that case the cookery would have to be after hours, you could not cook for the education of one class and have the young children that could take no interest in it at all sitting silent.

19008. Mr. RAMSBOY.—Then as to the cost, I think we have it in evidence that the London School Board makes £500 a year by the sale of cooked articles. Even assuming that could not be done here would there be a great loss in a large town on the sale of what is cooked by the pupils?—I don't know, it is a region of prophecy.

19009. Then, as to the apparatus, it is not very expensive to put up a range, and the cookery stands are not expensive?—Yes, but the ground is so precious, and it has been so utilized, that it would be impossible to get a room set apart, the classroom would have to be so overhauled and altered.

19010. Captain SHAW.—You think that the object of elementary education should be to cultivate both the mind and body, so far as possible in the time?—They interest on each other and I think they should go pari passu.

19011. And you consider that if you teach children writing, reading, composition and spelling, and arithmetic that that effects this result?—No, I did not say so, I specified these as important subjects that I thought should have great prominence given to them.

19012. I understood you would exclude all other subjects?—Oh, no, I would have in rural districts measurement taught, in seaports I would have navigation taught, I would have shorthand taught because it is indispensable to a man going into an office now, and seeing that there are so many openings for travellers and men fit to carry on correspondence for merchants I would have in a large place like Dublin, or Cork, or Belfast, I would have French taught.

19013. Are you considering the school age of the children when you put in all these things?—They are not nearly so many subjects as are put in already. The question is whether you can render the children fit to acquire this knowledge readily afterwards, if they want it, during their elementary school age in a better manner than at present.

19014. It is impossible to teach a child everything it requires in its future employment, during the school time. You cannot turn out a complete clerk from the elementary school?—That is true.

19015. And the question is how you are going to prepare him best, so that he can complete his education afterwards?—I think if a boy can write correctly, write the English language fairly well, if he can draw out an account and furnish it in a decent manner, if he can write a good hand, that that boy would be in a fair condition to accept a situation in a merchant's office.

19016. It is not a part of the training of a National school at present to draw out his powers of observation and get him to correctly describe a thing?—No, but the question is what is the best thing to do for a boy or girl up to twelve years of age.

19017. Then you wish to individualise the education of the child according to what he is going to be afterwards?—No, that is not the result, because these subjects apply to all boys, with the exception of

measurement and navigation, but the other branches refer to all children.

19018. But more especially to such children as are going to be employed in offices, or commercial life, which are in the minority in the country?—Of course if they choose to follow up those subjects afterwards I would not prohibit them.

19019. Then you made another observation that the children, after they leave the elementary school, need not hope for any further education?—I think as a rule, for example, if a girl goes into a factory or any place where she is nine or ten hours engaged, you will not likely get that fagged and jaded girl to go into a night school.

19020. If you teach that girl intelligently, can she not afterwards take up a book and complete her education, that is the way most of us do?—That may be so, you are not going to get a school for a girl, but you can get a shop where a trade is taught a girl after she leaves school.

19021. If you cultivate their powers of observation in reference to things around them, would they not be more likely after they left school to pick up information for themselves?—That I cannot say.

19022. You approve of training of the muscles as far as athletes, but do you not consider it necessary to use the muscles carefully so as to direct your hand to do what you want carefully?—Of course it is very desirable you should make a proper use of your hands; but if you have a boy with his muscles well developed by athletic exercises at the cross bar, etc., you will have a boy very well fitted to take care of himself when he takes a tool into his hands.

19023. It is much more difficult, I suppose you will allow, for any person late in life to take up any manual occupation, which requires accuracy, than if he begins early?—Yes, I admit that freely.

19024. Therefore it may be desirable to teach children at an early age to control their muscles and habits of accuracy?—I suppose so, but still in the little you can give them in that way the best way of occupying their time at school?

19025. If you find it in evidence that you can do this, and at the same time you can attain better results in their literary training, would you agree that it might be at least tried as an experiment?—I hope I would be convinced by evidence and allow evidence to weigh with me, but in the absence of evidence I am only talking of what would occur to me as an observer, that we should all aim at making the best use of the time, and it is not the best use of the time.

19026. You say the result system has not had a fair trial, it was established in 1872, that is twenty-five years ago, is not that almost long enough for an experiment in education?—Well, but I don't think it has failed; I think it has been very advantageous.

19027. You would not think it necessary to have at least twenty-five years' experience of any system before you could depend upon it?—Oh, no, sometimes a year is enough to make you know it is a bad thing.

19028. Mr. SEYMOUR.—I think your starting point, Mr. Magill, is that you are afraid of overloading the school course?—Yes.

19029. You attach great importance to thorough instruction in elementary subjects?—Yes.

19030. And you would be afraid of admitting other subjects which might force less time to be given to them?—All my views in relation to this matter gather round these points.

19031. You would exclude typewriting?—Certainly.

19032. But I think I gathered you would teach shorthand in every ordinary day school in the large towns?—In the large towns or cities where it would be likely to be of some benefit, but it would be useless teaching it to the son of a peasant in Connemara.

19033. Take a large town, you would teach shorthand in all the higher classes?—Just as I would teach penmanship.

19034. And you consider shorthand would be useful to all the boys when they leave?—I wish I

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could write it; I know no person advanced in life but would be thankful if he had been taught shorthand.

19645. Do you think a labouring man is going to profit by the knowledge of shorthand?—No.

19646. Or a girl in a factory?—I think not.

19647. Don't these form the majority of the people in the towns after all?—Yes, but I would not make it compulsory on these.

19648. Then would it not be better to have it taught outside the school, and let those who wish to learn it acquire it for themselves?—No, that would take up their time after school hours, and they would perhaps not be at liberty to spend an hour a day learning shorthand.

19649. Of course you are aware that evening schools have been very successful both in England and in Scotland, great numbers of pupils, apparently engaged throughout the day, attend them and acquire such subjects as shorthand and typewriting in the evening. Don't you think such a thing would be possible in Ireland in the evening?—If it would be legitimate to have shorthand and typewriting taught in the evening, then I would turn round and say a fortiori let the handicrafts be taught after school hours.

19650. What is your conception of the handicrafts introduced into schools?—What I have seen has reference to carpentry work, and joinery and plumbing to a limited extent.

19651. That is more or less in the nature of teaching a trade?—I would say so.

19652. And so is not a suitable subject for any ordinary school?—If a boy does not like it it is no use to him at all, and if he does like it it is no advantage to him when he goes to serve his apprenticeship.

19653. I think it is generally agreed that the teaching of a trade is not part of the instruction of an elementary school, and I don't think it is proposed to teach handicrafts in that sense in the schools?—Suppose you did not call it the teaching of a trade, it would not be the less teaching of a trade giving it another name.

19654. What is aimed at by teaching the use of tools in schools in training in accuracy of observation and reasoning powers of hand and eye; is not that a valuable quality?—There is no doubt it is.

19655. And it may be attained by other things besides the use of tools, for instance, drawing. Would you not consider that a desirable part of any elementary school course?—If you were satisfied that the best use you could make of that boy's time was to teach him drawing, if you are satisfied that I would say by all means teach him drawing.

19656. It is a point we are making inquiry into drawing has been compared with navigation for a large seaport town, which do you think is the most useful to be taught to the great mass of the children?—In a large town such as Belfast I certainly would not exclude drawing, but I would never think of having it generally taught, where all probability is that it would never be any use afterwards.

19657. But drawing is taught, not with a view to make them tradesmen in after life, but to make them more observant?—I would rather have the time spent in teaching him to write a hand that could be read

than make him a tradesman who would draw a figure you could not understand.

19658. Would it not be possible to do these both?—It is not possible to make them good writers except in some schools.

19659. I think you propose in large towns to teach them both shorthand and typewriting?—Shorthand in all the large towns and writing everywhere.

19660. But in addition to the writing you would also have shorthand in the large towns?—I would.

19661. Would it not be more desirable to have drawing instead of shorthand?—I don't object to drawing in large towns, because I believe it may be turned to account.

19662. At any rate in the elementary schools what should be given as a good general education?—A good general education, and if either shorthand or drawing can be turned to account I would have these both taught, but I would not have them taught simply because you say they teach a boy measurements and distances, and so on.

19663. Quite so, but you would have a good general education which trained all a boy's faculties, would you not?—I would.

19664. You advocate, for instance, some form of physical exercise, gymnastics, and would not these be a form of training of the boy which would be very desirable for everybody? I am not taking any particular form of exercise, but some training which would develop the sense of accuracy and power of control over the muscles of the hand?—That would not be in the direction of what I call athletic exercises, I don't know that that would develop the muscles at all.

19665. No, but it gives control both of hand and eye, and makes a person more generally useful?—Yes.

19666. If that was part of the system of general education, if you found from experts that the teaching of drawing and of simple manual occupations had that effect, you would be disposed to consider the advisability of introducing it into a school?—I would be bound to be influenced by evidence; I would be very unreasonable if I would not.

19667. We are agreed that what should be given in elementary schools is a good all-round education, meaning an education which develops all the faculties of the pupils, and you and I must leave it to experts who have investigated the question and tried it by experiment, to say what is the best form in which this education could be given?—If that would be your opinion that we should be guided by experts, I don't see why I or anyone like me should give evidence, because if you have the evidence of experts to settle the matter we need not bring our little common sense to bear upon it.

19668. We want the opinion of everybody on the matter, especially of those who have anything to do with the management of schools?—Well, I will put it in this shape—I would not advocate a fancy programme to catch the public eye, I would like a programme carried out that would benefit the peasantry of the country, and whether it was a fancy programme or a simple modest one, if I believed it would best fit the peasantry for the battle of life, that is the programme I would carry out. I should think that would be the general aim of anyone who intended to benefit general education.]

Belfast.
Oct. 12, 1897.
Rev. S. E. Brent, &c.
Belfast, I.A.B.C.

On resuming after lunch, the Commissioners present were:—THE RIGHT HON. THE EARL OF BELMONT, G.C.M.G., in the Chair; THE RIGHT HON. C. T. REDINGTON, M.A.; REV. HENRY EVANS, D.D.; REV. HAMILTON WILSON, D.D.; W. J. B. MOLLOY, Esq.; CAPTAIN T. B. SHAW, and J. STREETHS, Esq., B.A.,

with J. D. DALY, Esq., M.A., Secretary.

Rev. S. E. BRENT, M.A., Rector of St. Andrew's, Belfast, examined.

19652. CHAIRMAN.—You are the Rector of St. Andrew's, Belfast?—Yes, my lord.

19653. And Vice Secretary of the Church of Ireland Association of Patrons and Managers of National Schools in the united dioceses of Down, Connor, and Drogheda?—Yes.

19654. Can you tell me what the effect of the Compulsory Education Act has been in Belfast?—I can tell you something about it. Do you refer to the figures or the state of education generally? I may mention that I am one of the members of the School Attendance Committee of Belfast, and that I have been a member from the beginning. It began its work in January, 1894. The effect of the Compulsory Education Act in regard to numbers is this, that in January, 1893, some little time before we began our work, there were 45,073 children on the rolls of the National schools of Belfast, and the average attendance was 30,803.

19655. That is about two in three?—Quite so. In December 1894, after three years nearly of our work we found we had got 51,675 on the rolls, with an average attendance of 37,373, showing an increase on the rolls of 8,602, and on the average attendance an increase of 7,570. I wish to remark that the National Commissioners told us to estimate the number of children by dividing six into the total population, and if we acted on these figures we would have 8,000 more in the schools of Belfast than that division would give us, so that five into the total number of the people of Belfast would rather give us the number of children of school age between seven and fourteen. It would only give us 48,383, divided by six. I have also to say that a very important fact is brought out by the figures, i.e., that there are 16,000 children on the rolls of the schools that are absent from school every day in Belfast. This is one of the defects in the Compulsory Education Act.

19656. How do you account for that?—I can hardly account for it except in this way, that, when a child's parents are warned, they send the child for two or three days, so as to get rid of any further proceedings, as soon as the first proceedings have passed, the child absents himself again, and so it goes on fluctuating until this large average of absences is reached.

19657. You find it is a continual battle with certain children to get them to school?—It is, and with nearly all it is a battle to get them every day to school; the Attendance Act requires some amendment made in it that would do something towards overtaking this fault.

19658. Your experience, I think, lies in the direction of the subjects of drawing, music, cookery, drill, and subsistence?—Yes.

19659. Perhaps you will tell us what you consider the true object of manual and practical instruction?—I think that this manual and practical instruction should have for its object the education of the eye and hand of the children, and that it would be utterly out of the question to try and teach them trades.

19660. That is taken for granted by our Commissioners?—I did not know that.

19661. The reference was very carefully drafted to give effect to that idea?—I am happy to hear that.

19662. Are you in favour of some manual and

practical instruction?—I am much in favour of it under certain conditions and limitations.

19663. Perhaps you would specify the sort of manual instruction you think would be advantageous?—In the first place we cannot do anything in manual instruction, except we get some shortening and revision of the programme, and there are some directions in which I would suggest the shortening of the daily programme. The first is that the whole course of grammar and parsing, should be shortened considerably in regard to time, as being not possible to be understood or used by the children after they leave school. The second is that there is an immensity of time spent upon learning obscure geography after that fashion—A is the capital of B, C is the capital of D, it is a regular rhyme, and that is the only way in which we can answer the inspectors.

19664. Are you against the pedecoe that appears to prevail, of teaching the heights of mountains and things of that sort?—Yes, my lord, all such things are utterly forgotten within a week after they are taught or examined in.

19665. You think that geography would be better taught by teaching them to know a map, than by getting into their heads a long list of names?—Yes. The third thing is advanced arithmetic. I think this advanced arithmetic which is taught in our schools is, in consequence of its not being followed on, actually destructive of a knowledge of common rules, which every clerk is required to know and practise while in his situation. It may seem strange to you, but such is the fact, as I have found in experience. The higher those young pupils go in algebra and mathematics, the worse they are as a rule in doing a common sum or making out an invoice in a shop. I was going to say that that is one direction in which I would ask the committee to shorten the daily programme.

19666. What is your experience as regards the subject of needlework in girls' schools?—Needlework has been most useful in girls' schools; they devote five hours in the week to it in my schools. I have nearly 700 children on my rolls. And likewise five hours are given to drawing.

19667. Have you the industrial programme in the upper classes?—No, my lord, we have not got it as a whole, but we have got many parts of it.

19668. As regards drawing, are you in favour of drawing being taught to both boys and girls?—I am very much in favour of it; I have brought here what I took this morning by chance—specimens of the drawing of very small boys (pencil-work). This is part of the education of the eye for which I regard the practical and manual system with so much favour.

19669. What do you say with regard to the present programme in handicraft?—I think it is much too long and elaborate, and the things aimed at are too much in the handicraft line, for if we attempt that, we will fail altogether. There are two years given to the handicraft programme in the National Board. What is the result of it? It is so long that it is taught in very few of the schools. With a great deal of difficulty I came upon one school in which it is taught.

19670. What exactly did you observe as taught under the head of handicraft?—Flumming and joinery.

19671. But they are trades?—Yes, and that is one of the reasons I think it will not succeed.

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19679. You are aware that the object of this Commission is the introduction of something that will not be the teaching of trades, but will make boys handy and efficient, and teach principles they can apply when they go to learn trades after they leave school?—Yes, that is what I so thoroughly go in with.

19680. It is admitted there would be difficulties in starting some of these sorts of manual work; about getting rooms and tools and training teachers; have you ever thought how these difficulties could be got over?—I have not. All those things which I have introduced into our schools, such as the millinery class, the cookery class, and pianoforte music, these were all outside the schools as schools.

19681. Outside the school hours?—Yes, and outside the teachers, but in the schoolroom, and with the children of the school.

19682. You heard the difficulty the previous witness thought would arise with regard to cookery; have you found any real difficulty as regards putting a range up in the schoolroom?—The teacher who came to us got it done with very little difficulty.

19683. Can you tell us at what expense?—in figures?—I could not tell you now at this distance of time, but I should think we had to make up about 30s.

19684. Who made up the rest?—The fees for instruction.

19685. I believe you think that children are too young to grapple with things like sawing and planing?—I do.

19686. At what age could they begin?—Not sooner than fourteen, which is the time we lose the children from school.

19687. You are aware that in some places, particularly Sweden, they begin this work before fourteen?—Yes, but I am speaking of the heavier work such as sawing and planing.

19688. But they do teach sawing and planing, of course it is only making small articles?—That is with reference to any attempt we may make to teach these handicrafts, which, as your lordship has already informed me, is given up.

19689. Given up as a trade?—I mean given up by the Commissioners as a trade.

19690. Oh, no, it is given up by the Government in framing this Commission. We are not to inquire into technical education in the sense of teaching a trade, but we are to inquire into how and to what extent manual instruction, which would lead up to teaching a trade afterwards by having trained the hand and eye, can be introduced?—But if it goes any way far in the schools it will only succeed in inducing the weakness of the various trades to regard those young fellows who get this sort of training in our schools as botches, and they would rather have them fresh and without any knowledge beforehand.

19691. You think that would be the case in Belfast?—I am afraid so.

19692. It has not been the case in Birmingham?—Has it not? Well that is a parallel town.

19693. Mr. MOLLAY.—You attend as a representative of a number of managers in Belfast?—Yes, sir.

19694. How many of them, might I ask?—Are you speaking of Belfast or of the diocese?

19695. Whatever body you represent?—About 170 managers in the united diocese of Down, Connor, and Dromore.

19696. And may I inquire whether the views you have expressed in favour of the introduction of manual instruction may be said to be the views of that important body?—I am afraid I shall have to ask you to take my answer with kind consideration; it is that our managers are up to this time not very well acquainted with the scope of the practical and manual instruction of which this Commission is the object.

19697. From your knowledge of the managers and the information Lord Belmore has just given of the scope of the Commission, do you think it likely that they would entertain your views?—I think their great

fear would be, not about the expediency of doing this, but the expense and time that would be necessary; and the class-room, and perhaps the trained teacher that would have to teach these things.

19698. That is in the event of the expense devolving upon the managers?—Quite so.

19699. If the expense, however, in great part did not devolve upon the managers?—I think then that they would be rather inclined to regard the practical and manual teaching with very great favour, that is to say, according to the various places in which they are.

19700. Captain SHAW.—Do you teach kindergarten in all your schools?—Not as a complete system, but in the infants' school we teach nearly the whole of it, and in the girls' and boys' school it takes the form of calisthenics.

19701. You consider it should be developed and carried through the school training?—Yes, sir, I do. I think it would be a very great advantage in infant schools, and a very great attraction to the school.

19702. But I am speaking of the classes above the infant class, perhaps you are not aware that in England there is a development of the system called hand and eye training, which is an extension of kindergarten exercises to the higher classes?—I never saw that in England, and could not answer about it, but my opinion would be that in the grown class of both boys and girls the form of kindergarten which we know as calisthenics and games and marching and drill would amply meet the advanced kindergarten.

19703. But it is the hand and eye training for which we look more especially in the older children?—I think that is very efficiently taught by the training of the hand and eye in drawing. I have been much surprised myself to see the drawing done here by the hand from the pattern.

19704. Do you have object lessons in the school?—Certainly.

19705. You consider them very useful?—Very useful indeed.

19706. Are they not a great aid to composition, if the children are required to frame original answers?—Oh, yes, a very great aid, but that subject of composition is a great difficulty in every school.

19707. Is not that because it is not properly taught?—I really cannot answer that question. I came long ago to the conclusion that if a person could compose well after arriving at man or womanhood, it was in their nature, and that all the teaching in the world would never enable a person to write his own original thoughts in a proper way if he had it not in his mental capacity.

19708. But if children are called upon to observe and express their observations in their own words they are the more likely to learn composition than if they are set down to write an essay on some subject?—Yes, sir, but I don't think one in twenty can do it.

19709. CHAIRMAN.—Do you think that applies to persons in all ranks of life?—I do, indeed.

19710. Captain SHAW.—You say tools are too heavy for children under fourteen years of age?—Yes. Anyone that has ever seen a tree well understood how tired the men get in a short time.

19711. May not that be from want of early manual training?—Possibly the muscles have not been developed.

19712. Really carpenter's tools should be used with no force at all, if used properly they nearly all work themselves?—That admits of a little limitation, saving must be done by the motion of the teeth, and the action of drawing a saw backwards and forwards is most exhausting.

19713. He need not apply any force to it to get it through the wood?—That is what we are taught, but it is done.

19714. Mr. SRAUTHERS.—You are aware that in Sweden, children ten years old use the regular carpenter's tools and had no difficulty in doing it?—I was not aware of that.

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19715. In Denmark they have special tools constructed for the children, but in Sweden children from eleven years up, at all events, are trained to use the ordinary carpenter's tools and so dexterity has been found in doing it?—That answers my theory altogether; I did not know that fact, and I am much obliged to you for telling me.

19716. You consider the cultivation of hand and eye just as important a part of school training as any other?—I do indeed.

19717. And you consider it is developed by this teaching in drawing which you have shown us?—Yes.

19718. And if you found there were other exercises which still further developed that power, but did not interfere with the ordinary school work, you would be in favour of their introduction?—I would indeed, very much, but when I said the ordinary school work I carefully excluded extra refinements of the three things I mentioned, geography, grammar, and arithmetic.

19719. You have been present at an examination, I presume?—I have often.

19720. You have heard the inspectors ask the children to name the capitals of France or Spain?—Often.

19721. Did he not ask the children to point them out on the map?—Oh, yes. What I spoke of were extraordinary questions about little places on the right bank of a river, and on the left bank of a river, and all that.

19722. You have heard an inspector ask questions of that kind?—I have.

19723. To name the towns on the right bank, and was not satisfied unless he got the name of every obscure village?—I would not like to say that; it would be an accusation I could not prove.

19724. Have you heard the inspector ask for the heights of mountains in his examination?—I could not answer that question, but the deduction I made was that the inspectors very often were obliged to frame some exceedingly difficult and subtle questions in order to discriminate; that is to say, he had found the class so well up that I thought he was forced to go on to a higher place.

19725. Then I presume their questions were idle questions, so to speak, not necessary parts of the ex-

amination?—I don't know, the inspector's mind is one of those things that are wrapped in mystery.

19726. But still he comes down from the clouds sometimes and asks questions?—Oh, yes.

19727. And you can only judge of the state of his mind by the questions he asks?—That is so. I also must judge of the state of his mind by the return of the results sheet.

19728. In this case in which he asked questions of a difficult character because the children knew the ordinary work so well, did he fail any of the children in geography, do you remember?—I could not answer that.

19729. Perhaps he was only inquiring how far the children could go?—Perhaps so.

19730. And if the teacher knows such questions will be asked, he will be tempted to train his children during the year to answer those questions. I suppose he always asked the children to point out on the map the place named?—I think so, and I would like to say it is not finding fault with the inspectors I am, but I am rather referring to the system by which they are obliged to ask such questions.

19731. Rev. Dr. Evans.—When the inspector asked those questions requiring pointing on the map, did the pupils point to the name of the place?—Is not the name and the place the same?

19732. But they are not always together?—You mean the little mark on the map, I could not answer that; the pointer the child would have would cover a space of the map sufficiently large not to discriminate between the little dot and the name.

19733. You said you would be in favour of manual instruction subject to certain limitations; will you kindly indicate those?—We should never attempt to teach them handicraft, that is, we should not have the idea of preparing them for any special work, such as carpentry or joinery, but that the practical teaching should be confined to things which would be of everyday use; for instance, let me give you a thing I was pleased with, the soldering of a kettle. That is a simple matter, but you require to be trained to it. I know that there is great trouble often in a house with kettles, and a little bit of metal with a soldering iron, if a child knew how to do it, would give a happy ending of that difficulty with the kettle, and, at the same time, interest the child.

Colonel YVES BURGESS, D.L., Parknam, Chalfontsfield, examined.

Colonel Yves
Burgess, D.L.

19734. CHAIRMAN.—You are a Deputy Lieutenant of the county Tyrone, and you live at Parknam, near Chalfontsfield. You have had some experience in regard to the management of primary schools?—I have been a manager for some years, say, thirty, but of only one school.

19735. I believe you have given attention to the subject of manual and practical instruction in rural schools?—I have thought it out a good deal. Well, the practical instruction—if you would embrace in that agricultural instruction—I have been very keen on that.

19736. Before you come to that, perhaps you would give us any idea you may have on the subject of what some people call carpentry, but we prefer to call woodwork of an elementary character?—I live in a neighbourhood where the farms average 12 acres and up towards a mountain district, where they are far away from a town. One often remarks the tattered state of the cottages, and the absence of gates on the farms, and so forth. It has struck me in connection with this Commission, that handy practical carpentry, to be taught, not by the schoolmaster, who would have to learn it himself, but by the assistant carpenter, to enable youngsters of the fifth and sixth class to learn the use of ordinary tools—would be very useful to learn, as they would, if they

went out as colonists, to be able to mend tables and chairs, and pig troughs, to mend gates, or a cart, if necessary. That would be very useful instruction for youngsters in a district of small farmers.

19737. We have found in the course of our inquiry that where woodwork is taught, objection is taken to the employment of an artisan as an instructor, it is thought better that the teacher should be trained to give instruction in the elementary sort of wood work that is taught, partly on the ground that an artisan, as a rule, unless he is trained to be a teacher, is not a good teacher, and partly on the ground that it is undesirable to introduce a stranger into a school because the stranger would not be able to enforce discipline, and it also might give an idea to the children that the teacher was an incompetent person; and, on the whole, it has been found better that the teacher should be trained to give this instruction than to introduce an artisan. And in one case in London, where an artisan is employed, before he was employed he was trained to be a teacher; and, therefore, having been an artisan, and knowing the technical part of his work, he was trained in this other qualification, which enabled him to be a very effective teacher of a very large board school in London. Have you considered that question at all?—Yes, I have in my eye at this moment a man who is now a carpenter, and

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who, from dearth of carpenters, was sent, when he was a comparatively young man, to learn from a carpenter of some experience. I am speaking of a country district; he is what you call still a handy man, steadily improving. He resides in close proximity to the school under my management. Another young carpenter, very young, but very able, is in close proximity to another school under the management of the parish priest, within half a mile of my school. And they are two men who could teach far more practically this sort of carpentry than any schoolmaster, sent away from his work to learn carpentry, and knowing very little of it after the short time he can devote to it.

19738. Have you been in Switzerland?—Yes.

19739. Have you observed the Government scheme for teaching wood carving and woodwork there?—Yes, and observe that Switzerland is the resort of the tourist. We are developing very much the tourist industry in the West. The late Viceroy wrote an article which drew great attention to this, and although he is a different politician, I admired very much the article he wrote on "Unvisited Ireland," which, I think, has done a great deal for Ireland. And Mr. Clonier has done a great deal. If that industry is developed, we shall have Ireland another Switzerland, and we shall have a great demand for the smaller in districts, eggs, poultry, and every thing else, and we shall have another industry in wood-carving. In Connemara, one sees little girls running after the cars with knitted stockings. In future, we may hope to see the little boys asking not for "a penny to buy a school-book," but for "a shilling for something I have carved." In the tourist districts you may institute wood-carving, as at Berne, where there is a Government school of carving.

19740. There is one subject we have inquired a great deal into, and that is this question of drawing in the schools; do you think that drawing should be made compulsory in all schools, or in town schools and not in country schools?—I will not speak for myself, but I may speak for my schoolmaster, who is a man of considerable experience, and he said to me that if some of these matters, such as drawing, was taken up in one school and not in another, the parents of the children would say "these are fads," and if any time was devoted to it they would send their children to other schools, and on that account he thought they should be made more or less compulsory. I look upon drawing as very useful. Take the sixth class boys, if they want to make a gate they should be able to make a drawing of a gate they saw somewhere else. If it is a gable, or a chimney, or a chimney cowl, it is useful that they should be able to sketch such things, and, in addition to that, it teaches them observation.

19741. It has been suggested to me by teachers, that although it would be hard to compel a teacher who had been teaching for a considerable number of years, and was no longer a young man, to qualify himself to teach drawing if he had no natural taste that way, it would be only right to put all future teachers under an obligation to acquire a certificate to teach drawing, as well as to teach anything else, before they were allowed to become teachers, and also that encouragement, at any rate, should be given to the younger teachers to go to Dublin, or some centre, if centres were started in Ireland, to learn how to draw, and by degrees, and at no very distant time, that drawing should be made a compulsory subject?—I think it would be impossible to teach an old teacher to draw; and it might be difficult to teach a young teacher, so I think you must be dependent upon men who have a taste for drawing, and that would grow up by degrees.

19742. There are two kinds of drawing we have inquired into, one is freehand, and the other is made drawing. There would be no difficulty, I suppose, in

anybody learning scale drawing, and using a compass?—I suppose not.

19743. Do you think it would be a good thing that all children should be taught to use a compass and ruler?—I have not applied my thoughts to scale drawing, but more to the handy drawing that would be useful to a small farmer who would be able to sketch a thing for himself, for they build their own houses very often.

19744. I think you have come here principally to speak on the subject of agriculture?—Yes.

19745. Do you think in country schools a plot or garden should be attached to every school, and the teacher of every school should be expected to teach, at any rate, the principles of agriculture?—I think in country schools where the farming is backward—between Drogheda and Moy the farming is advanced, in the districts I live in the farming is backward; and as you go to the mountain regions the farming is more backward still—you see the most lamentable ignorance of the principles of farming. You will see men making a dunghill before the door and having all the sap of the dunghill running down into a neighbouring stream. Some of these farmers, who are most anxious for the redemption of their rents, are ignorant of the leading principles of agriculture. To teach their boys in the fifth and sixth class farming from a book is more teaching by rote, it goes in at one ear and out at the other. I think there ought to be practical instruction in a small portion of ground attached to the school, or very near it, so that what is taught from the book can be proved by object-lessons on the ground.

19747. There are three ways in which agriculture may be taught, of which we have heard in evidence. One is the present way of merely teaching out of a book; another is teaching from object-lessons the principles of farming without teaching the whole farming operations; and the third is by having a school farm, of which I believe formerly there were a good many through the country, but most of which have been given up by the National Board. Which of these three kinds of teaching would you prefer?—Take the last, the district farm, you cannot get fathers to send their sons twenty-five or ten or five miles to a district farm. There should be a plot at each National school—there were at first but two acres attached to my school—the schoolmaster knew nothing at all about farming when he commenced, but with the theoretical help of Professor Baldwin's book and with the subsequent visits of Professor Baldwin, Mr. Breen, and, very much so, Professor Carroll, he has become the best farmer in the district. The farmers around him jested at him at first when he spoke of making a profit in the balance sheet which he has to draw up each year for Professor Carroll.

19748. Where is this farm?—Parkanure. And although he is a family man, out of his savings he was able to pay for the tenannage of a farm of fourteen acres, on which he had the best opportunity of illustrating what skill could do. That farm lay between two leading roads, one to two Presbyterian churches and two mills, and the other from one market town to another, and the people of the district could not fail to see what he was doing. It was sown of scotchgrass and whitefoot, but by elbow-grease he got rid of the scotchgrass, and by his knowledge of farming he advanced that farm from being the most neglected farm in the district—a derelict farm—to be one of the best farms in the district. When he first went there he began to grow clover with his oats; the old-fashioned farmer who lived next him said, "There is no use in putting clover in that field, that hill never grows clover." "Well, it's going to grow clover now," said he, and I saw a most magnificent field of clover in it the other day.

19749. Perhaps you are aware that there are only two Model farms in connection with the Board, namely, the farm at Glasnevin and the Munster Dairy

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have. It was suggested to us the other day that it would be a very good thing to establish more farms of that sort through Ireland to which boys after leaving the National schools might be sent. Of course some arrangement would have to be made for housing them. It would be very useful after the boys had learned the elementary part of the subject that they should go on to one of these Model farms. Suggesting now, for instance, there were three in each province in Ireland in addition to those already there, do you think that would be a good thing to establish?—It would be very useful for occasional boys. For instance, I proposed to Mr. Carroll to send a clever lad from our school. I was going to send him and pay his premium for him as a reward. However, Mr. Carroll suggested I should let him compete for a free place: but that is only one boy in a dozen—the whole countryside requires this teaching. And I might add that for some time the parents were unwilling to allow their boys to do what is really necessary for them to learn what they are about by working on the master's farm. They said they did not send them there to work, so then the National Board introduced a very good system of giving a payment of so much per hour to each boy, and it is only the other day I signed the form for the quarter during which they had received instruction. The boys like it, and they get practical knowledge; they see not only how to work on the farm, but they see all that Mr. Carroll has been teaching the master, and what answers through the master to them about grasses and diseases in potatoes, and all these interesting things that Mr. Carroll is constantly teaching, for he is not only an inspector but an instructor, as the master gratefully acknowledges.

19730. If such schools as I spoke of were established, it will be necessary to have special teachers to give instruction on such farms?—Yes.

19731. Mr. REDMOND.—Is this two-acre plot you speak of recognised as a school garden or school farm?—It was recognised as a school farm. The two acres are gone now the National Board acknowledges the farm of fourteen acres as a school farm.

19732. CHAIRMAN.—Can you give us the name of the farm in their list?—Here is the report of 1894, about that farm (produced).—Parkman National School Farm, Co. Tyrone.—The teacher of the Parkman school has shown here what intelligent management can effect in the improvement of land without extravagant outlay. He says before that: "I have much pleasure in describing this as one of the best of the agricultural schools under the Commissioners."

19733. Mr. REDMOND.—Do you think therefore that a farm of 14 acres is useful for the instruction of the boys of the school?—It has been useful in my own neighbourhood, and so I argue *hoc* *vero*.

19734. You find that boys who have attended that school have benefited by it?—Yes; I have one pupil I propose to send up to Glaxerwin, and I have another to send when he is done—a younger one.

19735. Don't you think that it is rather an important thing in teaching the elements of agriculture that a boy should see experiments tried, and of course in a farm managed for profit no experiments likely to fail would be tried. For example, would it not be important to show the people the effects of manure by having one plot that is manured and another that is not manured at all?—You could not carry that out when a man is farming for his own profit.

19736. What would you say to having much smaller farms where experiments of that kind could be tried?—I think it would be very good indeed—nothing would be better. We are doing it on our own farm not very far from this master's farm; we are showing the results of spraying and of set spraying, and I am sure this master who has now 35 acres, could set aside a part for this purpose.

19737. When the boys go on the farm with the master, does he give them a little lecture or set them to work on the operations on the farm?—He gives them his little lecture himself. "Mr. Carroll, agricultural inspector, not a mere examiner, but an instructor, frames his questions to bring out the boy's powers of observation."—(Reading from a memorandum by the master).

19738. Excuse me, I mean your own teacher?—This is what the teacher says in the effect of Mr. Carroll's visits and which he carried out: "The teacher notes and teaches accordingly. The mode of examination suggests the mode of teaching."

19739. You think the teacher honestly conveys to the boys all the instructions Mr. Carroll gives?—Most honestly.

19740. You think Mr. Carroll's opinion is worth a great deal?—Oh, yes, very much so.

19741. Have you seen the new book on Practical Farming that the Board has introduced?—I have seen it, but I have not had an opportunity of reading it up.

19742. Do you think there is danger that, if you teach agriculture out of a book, the boys will get a lot of names into their heads without knowing what they represent?—I don't think book agriculture is any good unless they realise it on the ground.

19743. Would you go so far as to say you would not allow agriculture to be taught unless there was a little garden on which the teaching could be illustrated?—I think it could not be taught properly as all otherwise.

19744. Then a fortiori you would not allow agriculture to be taught in town schools?—There is no occasion for it.

19745. Have you any acquaintance with the French syllabus of agricultural instruction in elementary schools?—No, only I have got the report of the Recorn Committee here with which I am very much impressed.

19746. You are aware that they devote a good deal of time to elementary chemistry?—For large farmers that would be very useful, but not for small farmers.

19747. If small farmers are to become good farmers should they not read books on farming, and are not such books unobtainable to those who don't know the elements of chemistry?—Many years ago I got fifty copies of Mr. Baldwin's book, and I offered them to the farmers at half what I had paid for them, and then I offered them at a quarter of what I had paid for them, and as long as they paid even 2d. for them they would not have them. You must drive it into the boys, there is no use trying it on the men. I gave the books to the boys.

19748. Will they be able to understand the papers and books written on scientific farming unless they have some scientific knowledge themselves?—I am afraid they are not up to the mark yet, whatever it may be when they become peasant proprietors, which I am looking forward to, I think they will have more energy then.

19749. In preparation for that don't you think it would be a good thing to give them a little elementary scientific instruction?—There is not much time for it with the present school work.

19750. Instead of teaching agriculture out of a book, would it not be possible to teach them the elements of chemistry so far as they affect agriculture?—I don't think they have time to learn it profitably.

19751. Would it not interest them to see experiments tried?—Yes, but when you have one master with fifty or sixty children you would not have much time for it unless in night classes.

19752. Would you like to have more agricultural inspectors of the type of Mr. Carroll?—Undoubtedly so, I won't put a name to that, but may I be allowed to read it?—"The literary inspector is a mere examiner, some with fads, the teacher notes and teaches

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accordingly. The present school examination is too much of a cram. Literary inspectors don't like agriculture, because they don't understand it themselves. Some inspectors say, 'don't teach girls agriculture,' but women sometimes have to manage farms themselves, and always manage the calves, butter, and eggs, feed the cows and sometimes the horses."

19773. You would be in favour of an increased number of agricultural inspectors who would take charge of the agricultural teaching in schools?—Undoubtedly.

19774. And you think, from your experience of what Mr. Carroll has done, that these inspectors would greatly promote the rational teaching of agriculture in schools?—I think it would promote a great improvement in the agriculture of the country.

19775. Mr. Moulton.—I think that in conjunction with some members of a local committee you started a dairy industry and took charge, so to say, not merely of Drungman, but some three or four miles about; would you do the Commission the favour of briefly indicating what took place in reference to it?—I am sorry to say I did not take charge of the dairy industry, but Canon McCartan, who was the originator of the movement; he and I worked in double harness very harmoniously. Mr. Carroll sent us at our request Miss Lebane, the principal dairymaid at Glengrove. The thing went on very well as long as Miss Lebane was there; she went from district to district, and came to centre. The local gentlemen provided rooms and cows, the farmer's wives and some farmers attended the lectures, and we thought we were going to have a revolution in dairying; the farmers' wives were very much impressed with all they had seen as to improved dairying, but when it came to practice—when it came to selling the butter—they found that after all the pains they had taken, they could only get in the Drungman market the top price; and when they found they could get no more than the top price, with all their pains, the whole thing fell to the ground. You will have to institute dairy instruction throughout the country, as in Denmark, and then we shall have the whole of the Irish butter at a different level.

19776. Did Miss Lebane take any steps to continue the instruction?—She had to go away; her time was up.

19777. But the comparative failure arose from the fact that she had not trained specialists among the teachers?—There was not time for that, it was simply a round of a few weeks, very interesting and very instructive.

19778. I believe she was not a very long time there?—No, only two or three weeks.

19779. And if she had continued, or some one corresponding to her in point of ability had continued there for some time, would not the results be more permanent?—If we had half a dozen Miss Lebanes, as in Denmark! we are all behind in Ireland—all politics and no practice.

19780. If she was there sufficiently long that the ordinary teacher of the school could get a knowledge of the subject, would not the effect of the instruction remain permanently?—Professor Carroll begged and begged we would get somebody to go down to Glengrove to learn dairying, but we could not get a single girl to go down; I had hoped for the schoolmaster's daughter, but she looks forward to making more profit by being a schoolmistress.

19781. However, during the time Miss Lebane was there, the instruction was very successfully carried out?—Very successfully carried out, but simply because it did not pay they left of exerting themselves.

19782. I am inclined to think they should have given it a further trial?—We would have done so, but we thought it was rather too much to ask local people to bear the expense of it.

19783. I believe there was a very influential local committee formed who worked very harmoniously?—Very much so, we had the clergy of all denominations, and they worked like brothers together.

19784. Captain SHAW.—This school farm, of which you have been telling us, does it only supply the needs of its own district?—Yes.

19785. Would it be possible it might be utilized by more than one school?—At this moment there is another school on my property where the children are exclusively Roman Catholics, and where I am anxious to establish a school garden, if the manager, the parish priest, would take it up, but he is not like my friend, Canon McCartan, he is not as enthusiastic, and I cannot get him to take it up, although I am ready to give the free-samples of the land. It is at a standstill at present. The Board have kindly offered to help the movement on.

19786. How many of the students do you calculate get satisfactory instruction; you have mentioned two where you think fit to go on for further instruction?—There are sixteen pupils under instruction at present, I will tell you honestly, a good many of them are labourers' sons, and one of these two is a grocer's son, the father has a little farm of his own, and it certainly is a model, this little fellow has cultivated it himself in accordance with what he has learned at the school. But in order to realize the full benefit, you should have farms in districts far away from labourers, who are working at so much a week, and from employees of other descriptions, the thing is wanting out by dozens, but there is not so much general improvement as you would expect to see.

19787. Does that farm teach on an average more than four children; give them effective instruction in agriculture?—I had to sign for sixteen boys the other day, for their quarter's teaching.

19788. Are there in the 5th?—5th and 6th.

19789. Your teacher is an enthusiast, I take it?—No, he is a very active man who likes to carry out what is impressed on him by Mr. Carroll.

19790. But he has a particular leaning towards agriculture?—He had not when he began, but he has now, he found it so profitable.

19791. Did he not start on a farm at the beginning?—He had two acres, but at my request. He began in 1870 with two acres opposite the school; he had no practical knowledge of farming, only book learning, helped by observation and hints as to routine from the young farmers around; then he compared their systems with the book, and adopted the better when he saw reason. He is a self-taught farmer. He has now 35 acres, last year he had nine sheep; he sold nineteen lambs off the farm at £27 10s.; he has four cows, four yearlings, two horses, always four pigs, and about forty head of barndoor fowl. He has no turkeys, geese, or ducks; he once kept geese, but they did more harm than good. He, from his own experience, thinks that two acres and a cow should be allowed to every National schoolmaster in the rural districts, if they have a taste that way, and if they have no taste there is no use for it.

19792. It would not do to make it compulsory on all the teachers?—No.

19793. What assistance does he get on the farm?—The boys and his own son; he has two sons, the second son helps in the school and helps on the farm, in fact he gets his 7s. where the others get 5s. 6d.

19794. Is three months of the farm under tillage?—Sixteen acres still all more or less under tillage; the remainder, recently added to him, he keeps in pasture.

19795. That must entail a good deal of manual exercise?—Oh, yes; I beg pardon, he has one man continually working on the farm, a labourer with a cottage.

19796. What is the result of his ordinary school-work?—Very good, he gets very high result too.

19797. CHAIRMAN.—Is he first of first?—No, first of second; he is a very plodding man.

19798. Captain SHAW.—In the study of agriculture they come upon such terms as ammonia, nitrogen, and other matters of this sort. Do you think it is important they should have some conception of what they are?—He teaches them what it means.

To Read
Oct. 12, 1889.
Colonel Tiger
Burgin, Del.

19799. Can you do that by description?—I believe it goes into their little heads, but they don't go into chemical tests.

19800. Would not a small knowledge of chemistry to illustrate the nature of those substances be of some use to the children?—If there was time for it I am sure he would be very glad to do it, and they would be very much interested in it. I know he tells them plenty about the ammonia that escapes if they don't keep their dunghills properly covered.

19801. Mr. SEEVERS.—I think you agree with what that teacher suggests, that you would only provide these school gardens and farms where the teacher had a taste for it?—Yes.

19802. You could not make it a compulsory system through the country?—It would be very hard on some teachers.

19803. This farm is 35 acres?—It is now about 16 under tillage, and the rest in pasture.

19804. The statement here is that only seven pupils were examined?—That is 1884, but as a matter of fact there were sixteen the other day.

19805. Well, even taking sixteen, is it necessary to have a farm of 35 acres to teach sixteen children?—Oh, no, I asked him if he would like more land and he said he would, and he took it, but the school farm proper is 16 acres, that he had acquired.

19806. Even 14 acres would be a great deal to teach sixteen children on, they could be taught with much less?—It is not necessary. He has that farm and teaches them on it, but he taught them on 2 acres just as practically.

19807. Is this district thickly populated?—It is, with ten-acre farms.

19808. Are there any schools within two miles of this school?—There is one within half a mile, the Chapel school.

19809. Any other?—There is one at Castlefield within one and a half mile, one at Dunsford, one and a half mile, and one at Donaghmore. You are thinking of grouping schools.

19810. Yes. Suppose you have a number of schools within two miles of this particular farm; might not the children of these other schools in the higher classes be instructed by this particular teacher without going to the expense of providing a school garden for each particular school?—I don't see why not. I attempted to start this as an emulation—that one school should have a farm and another school garden—a pleasant emulation between Protestant and Catholic.

19811. It might be possible to bring the children of the different schools to this particular farm?—You could hardly bring them from Donaghmore. At Castlefield, Mr. M'Nelis would perhaps be disposed to start a farm himself.

19812. But I mean as an economical way of teaching agriculture practically, would not that be a good suggestion?—If the children could go so far. Their regular studies are up to three o'clock in the afternoon, and if they could go after that it is a matter for them selves and their parents. I would support it if they do it, and I am sure Mr. Ross would too.

19813. But if the parents realised the benefit of the instruction, as no doubt some of them must, then I should think they would be rather anxious to send their children?—I should hope so.

19814. It would be a possible thing if they were willing?—Quite possible.

19815. In that case it would be necessary to have the instruction in agriculture after the regular school hours?—Yes.

19816. In fact to make it a continuation school?—Yes, it might be done on Saturdays.

19817. How does Mr. Ross teach the boys agriculture; at present he takes them out to his farm?—They have their book learning, and then he takes them out to the farm and points out the lesson.

19818. How often?—I am not sure at this moment.

19819. Several times a week?—Yes.

19820. He explains different things to them on the farm?—Yes.

19821. And do the boys do any practical work on it?—Oh, yes.

Mr. RUMFORD.—It is half an hour a day or three hours on Saturdays.

19822. Mr. SEEVERS.—In the case of the being half an hour, you can see that on certain days it would be useless to take the boys out?—Oh, of course, I have heard a master complaining of that, that he has been obliged to have them half an hour a day, and half the week it is raining.

19823. You think there should be a reasonable relaxation?—Oh, of course.

19824. What age would those children be to whom this agriculture is practically taught?—From thirteen to sixteen years.

Mr. DEAR.—That would be rather high, you might make a maximum of fourteen.

19825. Mr. SEEVERS.—You would have a great many children who have left school at that age, those would only be a surviving fraction?—When I mentioned thirteen I was thinking of two boys, sons of the groom, who has a little bit of land himself. I think one of them is not more than thirteen, they are in this agricultural class.

19826. Then others are from fourteen to sixteen?—Yes.

19827. There must be comparatively few who stay on so late?—Yes.

19828. And it would be advisable to induce pupils who have left school to attend schools like this?—The difficulty would be to give them an inducement, because the great complaint of the neighbourhood is the dearth of labour, and naturally they wish to have their own sons on the farms; in fact this boy I want to send to Glenside, he is barely sixteen, and his father took him home to help him, but I induced him to send him back.

19829. If they realised the value of this instruction, they might possibly send their children to school on Saturdays?—Possibly.

19830. Then the dairy classes you had went for people not connected with the school at all?—They were held in the school, but not connected with the school.

19831. Were they attended by pupils of the school?—Attended by these and by mothers.

19832. CHAIRMAN.—Boys and girls?—Only girls.

19833. Mr. SEEVERS.—What might be called extern pupils predominated?—Yes, chiefly mothers and big sisters.

19834. I think you said already that if these classes had been continued they might have affected the general production of butter in the country, and raised the general price?—I think so, if the whole district had been taught dairying, and if you could only manage by hook or crook to get dairymen who would go up and learn, and then come back and teach.

19835. Both the instruction given on this farm and the instruction given in the dairy class is for the most part given to pupils who have left school?—No, the instruction on the farm is to pupils at school.

19836. But it might be extended?—Oh, yes, if they would come. I should like to add one or two extracts from the Recesse Committee's report.

19837. You spoke of the agricultural education in Denmark; you are aware that that is given chiefly in evening schools—what are called the people's high school, and that agriculture is not taught in the ordinary day school, so that that would be rather in favour of establishing continuation schools rather than introducing too much of direct instruction in agriculture into day schools?—Oh, yes, years ago we used to have night classes.

19838. Have you any suggestion as to how these night classes might be revived?—No, they just dropped out by degrees. I was going to read that Denmark. It says at page 143: "Denmark, at the end of the

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last century was one of the poorest, and to day is one of the richest, entirely through agricultural education among the small freeholders." It speaks also of agricultural experts for general instruction and advice in emergency. That is a very useful thing. " France.—The agricultural instruction began in the Second Republic in 1848. There were schools of instruction to train heads of agricultural industries. M. Tisserand, Director-General of Agriculture in France, says a ministry specially for agriculture has become in our days a necessity, an imperative need in all countries, old and new, because it is a struggle between agriculture and agriculture and country and country." There is an extract here bearing very much upon the point. It says: " In these schools peasants of ages ranging between eighteen and thirty, spend—males five winter months, females three summer months, as boarders, receiving an education which leans chiefly to the humane side, and gives but a secondary place to the scientific and technical side, and which aims—as the headmaster of one of the largest of these schools expressed it to me—at developing the heart, mind, and will."

19839. These schools correspond more to the district model school in which the pupils board, than to anything you could attach to the day school.—True; but we want in the day school to give them the elements, and make them take an interest in improved systems.

19840. Rev. Dr. Evans.—Do you really believe it is possible to give valuable agricultural instruction in primary schools?—Oh, yes, I see it so; the boys are keen over it.

19841. Do you think the teachers can teach both agriculture and the literary programme properly?—It has of late years come in as part of the literary programme for result fees.

19842. Do you think the ordinary literary teachers can teach agriculture?—I only speak from what I know.

19843. Do you think our inspectors who are engaged in literary subjects are proper inspectors of agriculture?—No.

19844. Would not that observation you read just now, if carried out in Ireland, be a great deal more for the good of the country—that is, that we should have an agricultural department, and allow the Board of National Education to mind its own business, and teach literary subjects?—But we should like to give the agriculture in the school. They begin the farm work when they are not so high, and why should they not begin the improved agriculture, and not the "back-of-the-hill" work?

19845. Do you think we have got any occasion to teach agriculture as a trade more than blacksmithing or anything else as a trade?—You have Ireland mainly an agricultural country; you have the children of the country brought up as backward farmer's children and backward children; you want to get them when they are palatable and young, to learn improved principles.

19846. Quite right, all the elementary instruction leading on to it—you would be in favour of that?—Yes, and as much practical instruction as you could get into them.

19847. Rev. Dr. Widdows.—I quite agree with you in all you have said; are you able to notice any improvement as regards paper culture of their frame, and especially proper modes of preserving their manners?—I can give you one very interesting answer, given to me by one of my most advanced tenants. There was an agricultural school, which is now discontinued, kept by a cousin of his some years ago, and I asked this man, when he was a young man, "What have you learned from going to the agricultural class?" "Well, your honour, before it began we used to grow three crops of oats in succession, and now we only grow one." I was remarking to some body, not a fortnight ago, that when twenty or twenty-five years ago I could scarcely remember seeing a crop of turnips, now you have fine green crops growing up in all directions; I don't say it is entirely from this teaching, but it is very much from it.

19848. As to district farms, you are quite confident they would not go five miles to learn?—I don't think they could do it, and then they say, "We must earn money; we cannot be going on learning things, except at night"; we may revive that.

19849. Captain Shaw.—You have been always present and taken a great interest in it?—I have taken a great interest, but I have been unfortunately very much from home, and I am not very continuous in my attention at it.

19850. But you attribute some of the success to the interest you have taken in it?—Partly so. I don't like to claim too much.

19851. But you consider, in order such an undertaking may be successful, it requires local interest outside the schoolmaster?—I should be sorry to say so, because there are whole districts of country where there is nobody except the clergy—nobody in the shape of a landlord for mills and mines, and in the most backward district. I am glad to say that some of my neighbours' tenants rather look, perhaps, to one who is a local landowner as their friend.

Mr. E. P. DEWAR, M.A., District Inspector of National Schools, Lurgan, examined.

19852. CHAIRMAN.—You are a District-Inspector of National Schools in the Lurgan district?—Yes, my lord.

19853. You have come here to speak on some of the subjects as to which we are inquiring—namely, drawing, mensuration, science, agriculture, the results programme, and in connection with these subjects, of manual work generally. Will you begin with your observations upon the subject of drawing?—I think drawing should be taught in all schools, and I think we should not confine our attention to merely copying patterns from papers. We ought to make our drawing useful, and go on to model drawing, because it is sketching models that the boys will have any use for hereafter.

19854. You say model drawing, you mean drawing from an object?—Yes, sketching objects.

19855. I have heard in some of the schools "object" applied to a flat drawing. Did you refer to drawing an instant, for instance?—Yes.

19856. What sort of models would you advise for the senior classes to sketch?—It would not matter

much for an introduction. Any solid would do, just to show the children the proper way of expressing a solid on paper. After all, that is what you want. The difficulty here is really to get the children to represent a solid on paper. If they once know how to represent a solid on paper, they could sketch anything. I don't say we should go in for artistic drawing, but pretty much the same as we go in for in writing—bold writing that anyone can read.

19857. They should draw sketches that anyone at once could see what it was intended for?—Yes, and sketches, very likely that they would be using at their trade hereafter, and I think we ought to have drawing according to scale, in the senior classes especially.

19858. You think mensuration should be taught?—I think I would attach mensuration to the arithmetic programme. Instead of teaching arithmetic purely and solely, I would attach mensuration to that programme. For instance, in arithmetic, first stage of fifth, I would teach the area of the rectangle or trapezium; for the second stage I would have something higher, and for sixth, something higher still. I

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would not care to go in for volumes of solids, I would confine myself to areas.

18859. Do you think it would be a good thing to make the children take a tape and measure the playground?—Yes, that would be a splendid thing, and they ought to draw a plan of their playground on paper related to scale. Then a good thing would be to teach the boys to take the proper measurements in order to find the area of the playground. Very often in measurement we give the boys the measurement—never ask them to take it out. I think it would not be a bad idea if a teacher drew out a plan of some figure in the playground and told the boys to go out and take the proper measurements.

18860. Have you ever in the course of your examinations attempted to see whether a boy could do that?—Oh, no, I have not, my lord. It is not in the programme, and, of course, the teachers would think we were going outside the programme.

18861. What do you say about the science teaching?—I think we ought to have science taught in all our schools, and I don't mean out of books—I mean by experiments. Each teacher, I think, ought to introduce twenty or thirty simple experiments in the course of the year, making them object lessons, so that he could teach the whole school.

18862. How would you provide the apparatus in the smaller schools?—I would go in for simple apparatus. I don't think the teacher would find much difficulty in introducing the apparatus I want at first.

18863. Where would you get the funds to pay for it?—The experiments I would go in for would be simple experiments that would not want expensive apparatus. I would like boys taught to make oxygen. Not much expense connected with that. Say heat—that last expands bodies—that could be done without much expense. I don't think there would be any difficulty in the way of expense, provided the apparatus was simple. You could never hope to have very elaborate experiments. Expense would come in there.

18864. Do you know many teachers in your district who could give simple experiments?—Most of the teachers have read so much science that with very little practice they could make up these simple experiments.

18865. Would you leave the choice to the teachers?—I think in the meantime, until the system would get established, and after that the probability is a proper course could be framed; but meantime I would leave the whole system to the teachers. Simply ask them to exercise their discretion, and teach what they thought most judicious.

18866. What do you say with regard to the teaching of agriculture?—I think we cannot do much with agriculture—that is, in a practical kind of way—until we get some school gardens or school farms. Of course it is taught in all the country schools as a theoretical subject, but I am afraid the children very often don't know what they are talking about.

18867. Are there many school gardens in your district?—About half a dozen, and I have no school farms.

18868. Would it be easy to procure school gardens, if thought desirable, and, if so, would you be in favour of renting it on a neighbouring farm, or having it purchased out and out?—I think it would be better to purchase them out and out.

18869. You are aware that the Congested Districts Board, where they have established what are analogous to school gardens, have adopted the system of renting the plots?—A great many of our teachers have residences, and attached to the residence is a quarter acre. I think that would be quite enough for school gardens.

18870. You have given attention to the subject of mental occupations?—I am afraid at the present time we could hardly see our way well to introduce very much of it. I would propose to confine it to drawing

and mensuration of surfaces. I quite well understand it would be a valuable acquisition, but our time is limited.

18871. Suppose arrangements could be made by receiving the programme by which the knowledge gained in drawing could be practically applied to woodwork, do you think it would be desirable in the schools of a town to introduce it?—I am not quite sure of that, the probability is the time limit would always come in; I think we ought to aim at getting our children to observe, and if we have one good subject taught where the powers of observation will be engaged I think that would be quite enough.

18872. What subject would you suggest?—I would say drawing.

18873. Drawing is a subject, no doubt, but it is a preliminary to the woodwork. Woodwork is simply carrying on to practical results the theoretical in structure gained in drawing?—I would be inclined to leave that optional with the teachers, I would not force too much of it.

18874. I agree with you there. We found when we were in Sweden that woodwork is left optional always, and Mr. Salomon, who is the great authority there, distinctly told us that it would be very unwise to force it, or compel a person to teach woodwork who had not a taste for it, or did not understand it?—I certainly would leave it optional, and confine the tuition to experts.

18875. Could you not make the teachers or some of them experts?—You might in time.

18876. You are aware that where manual work is introduced there appears to be always a great objection to introducing anybody in the shape of an artisan, they much prefer a trained teacher. Supposing manual work was introduced, or could be introduced to any extent, to what extent do you think the results programme should be remodelled, so as to meet the case of examination and that sort of thing?—I would be inclined to leave out grammar and geography, at least in schools taught by one teacher. I think we ought to have a division of our schools. Where one man has to teach a school I don't think he can possibly teach so many subjects as we have hitherto asked him to teach, and hence the boys' time is not only wasted but they get into bad habits and don't know the value of time. In large schools, where you have an assistant for each division, I would continue grammar and geography, but in rural schools there ought to be a change and leave it optional with the teacher whether he would teach grammar and geography, but then I would not ask him to sub-divide the division. I would allow him to take the whole school and teach geography as a special subject. I would not ask him to divide it into five or six classes.

18877. The Commission in the course of their tour in Ireland heard evidence in regard to four or five schools in which manual work was taught, two or three of which were rural schools; but they have only seen and inspected one school, and that was the Christian Brothers' School in Limerick, and the way they found time there, was not by giving up anyone subject entirely, but by shortening the time of nearly all the subjects by ten minutes, by which they gained two hours that they devoted to manual work. Do you think that would be practicable?—Yes. One morning in the week might be given to sixth class. I would not introduce manual competition to the fourth class, and certainly not to the third, and I would hesitate about the fifth. Eighty per cent. of our children never arrive at fifth class.

18878. In England, where we found manual work in operation, it only begins with the fifth class, and it is mainly taught in the towns and not in the country, and in large towns like Birmingham, instead of having the classes in every school, they form a centre in a certain district of the town to which classes from perhaps five or six schools go on different days to be taught?—I think that would be a very good plan.

18879. Rev. Dr. WILSON.—You are favourable to

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the teaching of science with simple experiments!—
Yes.

18880. Is it very little use without them?—Absolutely useless without them as far as our boys are concerned.

18881. You have been with us in the Dunganston district and you are now in the Lurgan; are there more school gardens in Lurgan district than in Dunganston district?—Yes, *as yet*. I have come to Lurgan three or four school gardens have been added. I think they are very valuable.

18882. And especially you would attach them to the teachers' residences?—I would, and to the schools; if the boys have to walk much they lose time.

18883. Where there is only one teacher you would omit grammar and some other things?—I would leave it optional with the teacher; if he thought he could overtake the work I think. A great many cannot overtake the work and I think it better to leave it optional.

18884. Mr. STREETER.—But you would pay a fee for them?—I would.

18885. And then I suppose the teacher would endeavour to teach them?—He may, but if he taught them I would not subdivide them.

18886. Rev. Dr. WILKINSON.—It would be better to have a large school with two teachers than to have two schools with one teacher in each?—Where there is not a sub-division of labour you never can have effective work.

18887. Rev. Dr. EVANS.—The tendency, Mr. Dewar, is rather to the multiplication of small schools?—I am sorry to say it is.

18888. And from what you know of Ireland you believe it will be likely to grow rather than shrink?—I think so.

18889. So that for anything we might hope for from larger schools we really must wait until it would come about unless in the case of those that are large now?—Yes.

18890. You are strongly in favour of drawing?—I am.

18891. Would you make drawing compulsory in all our schools?—I think I would.

18892. How would you provide for the teaching of drawing in the case of old teachers who never learned drawing?—I would allow them to teach drawing as best they could in the meantime.

18893. But you would pay them for it?—Yes, if they produced results I would pay them. I see no reason why a man should not be able to teach the elements of drawing, it is just writing. I cannot see if a man sets himself to it why he would not be able to teach the elements.

18894. You think we should require certificates in the case of all young teachers?—Yes.

18895. And all passing through the training colleges?—Yes.

18896. But you would allow a certain relaxation, which you think would have a beneficial effect, in the case of senior teachers?—Yes.

18897. With regard to memorization I very much sympathize with what you have said. You would omit arithmetic a little in the advanced parts and put instead memorization, is that right?—Yes, I think I would. I would put a little memorization into the arithmetic programme, not as an extra subject. If the teachers preferred to have their geometry and memorization taught as an extra subject I would allow that to go on, but I would put a little of the elements of memorization into the arithmetic programme.

18898. And you think the elements of memorization would be more useful than Harmonic Progression?—Yes, for boys going to certain trades.

18899. Or cube root?—Well, cube root is useful sometimes.

18900. CHAIRMAN.—A witness told us the other day that cube root was never useful?—Oh, I don't agree with that.

18901. Rev. Dr. EVANS.—Do you think our teachers would be competent to go on with memorization in the way you mentioned?—Oh, yes, all our teachers know memorization well.

18902. The trained teachers and first class teachers, no doubt?—Yes, and even the man who is a third class teacher, a monitor must pass in memorization.

18903. In the matter of agriculture you have some school gardens, have you seen these yet?—Oh, yes, I have examined them.

18904. Have you been impressed with the conviction that they are really doing good?—I have.

18905. And would like to see more of them?—Yes.

18906. And you really think that good educational work is done in those school gardens?—Is it.

18907. In the case of manual instruction do you think that it would help in developing the intelligence of boys and girls generally?—Any acquirements would help in developing the intelligence; the only question I would be inclined to discuss would be whether the manual education would develop it better than the ordinary education. I think the question we have now to set ourselves in, which plan will develop best the intelligence of our little boys and girls, who will leave school at twelve or thirteen. I have no hesitation whatever in saying that manual instruction will develop the intelligence but I have every reason for saying it won't develop the intelligence as much as a course of arithmetic or a little science. I would not put them on the same platform.

18908. You would not put manual instruction on the same platform as algebra?—Certainly not.

18909. Is algebra taught in your district?—Oh, yes, it is. But our programme divides algebra into three sections, first, second and third year, the third year's course is very solidly taught.

18910. Don't you think the theory of arithmetic is better taught through algebra. Some of it, some of the theory of arithmetic you never could teach through algebra, but a boy who knows algebra would be better able to understand the theory of arithmetic from the training his mind has got.

18911. In your experience as an Inspector do you find that the questions in theory are avoided rather more than the practical problems?—I think they are nearly always shunned carefully.

18912. By teachers, mothers and pupil teachers?—Everybody.

18913. So much so that it nearly is a question with the Inspectors about setting these questions at all?—At the teachers' examinations we generally contrive to get one or two, but they are carefully avoided. At the last examination we gave ten questions and five gained full marks. A teacher may say to himself, "I know I can answer a practical question fully, and I will do that; I may not answer theoretical question fully," and hence he takes the safe side. If we want our theoretical questions answered we must change our mode of examination.

18914. Can you suggest any way by which teaching the theory might be improved?—Is that is the children?

18915. To the children in the schools?—Of course we could improve it in this way, by remodelling our cards and putting theory questions on them, so present cards have been in operation for a considerable time, and if we made new ones and put theory questions that would do. We could say that these questions will pass in arithmetic out of six, one of those must be a theory question. Put two questions in theory on every card and four practical questions, and say a child must take one theory question.

18916. Do you think the new rule about explanation in reading will much more occupy the teacher's time?—I think it will, but with our new reading books I fancy it will become easier after all. Our old reading books were very hard, there were a great many hard words that the children never read.

I think our reading books ought to be recast a little and made more interesting.

19017. Did you read Dr. Skiffington's report?—I did.

19018. Do you know what he means by "the old fifth book"?—Yes, I think I remember it.

19019. There was a great deal of elementary science in it?—Yes.

19020. And we are now talking about elementary science, do you think if that book were brought down to date would it be suitable in our schools?—No, I don't think I would introduce that, there are so many good primers in science that would be far more useful. I would introduce "Geddes's Physical Geography," a little primer on botany and one on insect in the same series, the boys could use them as reading books.

19021. Have you ever seen it put to boys whether they would prefer to go to a literary lesson or to manual work?—I fancy they would go to manual work; it requires less brain power, and a boy will always shirk the use of brain power, and so will men.

19022. CHAIRMAN.—Do you think it requires less brain power to do it properly?—I think it does.

19023. You can learn a lot of literary work by memory, can you do that with manual work?—I would say the literary programme is harder.

19024. Rev. Dr. KEANE.—Would it not be a vast to the brain, and at the same time a mental stimulus, if a boy had a term at manual work?—Yes, and so I would give him writing and drawing; if I were a teacher drawing up a time table I would have a hard lesson and an easy one—a hard lesson and an easy one in rotation.

19025. Have you spoken to other inspectors about this manual instruction?—We have discussed it individually.

19026. Is your opinion and those in favour of its introduction?—Well, we are not very much enamoured of it; we think to give a boy a fair chance in the world the better plan would be to train him as intellectually as we can, and I think then we ought to go a good deal on the old lines, but I certainly would introduce drawing.

19027. Mr. SKUTTHAM.—You are quite agreed that some development of the practical faculties of the children, powers of observation, and sense of measurement should be encouraged?—Yes, I am certain of that.

19028. And for that reason you would introduce drawing, but you have some difficulty in also taking into the school a course in the form of manual instruction, however simple?—Just on the principle that if I have one good exercise to train their observation, the probability is that would be quite enough.

19029. You would have observation in your lessons on experimental science?—Yes.

19030. Then why introduce drawing?—Drawing exercises, perhaps, a different part of the mind from experimental science.

19031. It trains the observation?—Yes, so it does, and it trains the hand.

19032. And makes the children more accurate?—So it does.

19033. What sort of drawing do you have in view when you say that?—I would not confine myself to drawing from mere copies, I would try to give our drawing a practical direction, so that when the boys want to learn trades they could take a sketch of some little thing used in the trade.

19034. At present it is chiefly freehand which is taught in the schools?—Yes, we have a clause which says that object drawing and shading may be taught, but it is very rarely done.

19035. Do you think there is much stimulus to the intelligence in freehand?—I am not sure that there is so much stimulus to the intelligence as there is to the observation.

19036. But you were laying stress on the fact that every form of school work should train the intelligence, do you think freehand drawing is of great value in

that point of view?—Well, it makes a boy accurate, and anything that tends to make a boy accurate will train his intelligence.

19037. Take a simple exercise in woodwork, making that pencil out of wood—don't you think there is a great deal more exercise of the intelligence in making that with a knife than there is in copying one of those freehand examples?—I am not quite sure about that; I would not like to pronounce categorically on it.

19038. You have not considered the intellectual effect of doing that work?—It was never put to me that way before, but if you ask me, I don't think there is much intelligence required in making that round.

19039. He has got a piece of rough wood; he has got to make a model of the exact dimensions; he has to be very accurate in his observations?—So he has in drawing.

19040. He has to consider every step he takes, every cut he makes with the knife, if he is careless and makes a cut too deep, he has to throw away his work and begin anew—is not that a valuable training?—Yes.

19041. Whereas in the case of drawing, if he makes a mistake he takes a piece of indiarubber and wipes it out?—Yes.

19042. Then is it not quite clear that there is a more valuable training in the woodwork?—No, I won't admit that.

19043. You said there was another form of training more valuable than copying examples from the fact?—Yes, sketching objects—model drawing.

19044. Would you say the same about drawing from plan and elevation?—Well, I am not sure that I would introduce that; you might introduce it in the sixth class. I think the other would come more readily into the ordinary work of every boy's life.

19045. Which do you think is more useful for the artisan—making a sketch of the object, or making an accurate plan and elevation of the object he is going to construct?—Well, if you give me an example.

19046. Suppose he has got to construct an object of a certain size and form, he makes the plan; he has got the elevation and the dimensions marked on it; everybody who understands drawing could make the object from that, whereas if you make a rough sketch it gives the idea, no doubt, but it has not the dimensions?—In that case I would say the accurate one is the best.

19047. Perhaps you are not aware that drawing from plan and elevation could be, and is, very successfully taught to young children of the second class?—I have never seen it.

19048. It is so in the Birmingham schools?—Would the first and second class in Birmingham correspond with our first and second?

19049. It corresponds to your lower classes, and the system is afterwards developed, they begin with paper-folding from a plan and elevation on the board; the children construct objects in paper, and know how to interpret it—or the object is constructed before them and they draw the plan and elevation?—I have never seen that.

19050. That kind of drawing is extremely useful, would it not enhance the usefulness if the children make an object to correspond with the drawing?—It certainly would.

19051. In fact we may consider some simple form of construction as almost a necessary concomitant of the drawing if it is to be of practical use?—It would be a good thing if we could introduce it and have time.

19052. You are quite agreed about the propriety of introducing drawing?—I am.

19053. And you would introduce anything to supplement the drawing which would make the instruction more intelligent, provided you could find time for it?—Yes, and provided it would not interfere with the literary instruction in other subjects.

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19954. You don't think there is any intellectual training to be got from this drawing?—Oh, yes, I do. I don't think for instance drawing could give you the same intellectual training as being able to solve a question in arithmetics or a problem in algebra, but it has distinct amount of intellectual worth.

19955. Nobody proposes to leave out arithmetic, but I think you yourself propose to leave out grammar in the case of country schools?—So I think I should.

19956. And at the same time, perhaps, to make drawing compulsory?—Yes.

19957. Which means that you thought drawing was a more valuable exercise for school purposes than grammar?—Not necessarily. I said in cases where we had one teacher who had to subdivide his attention over six or seven classes, I say his work in grammar is worthless, so it is a case of doing worthless work and work which is fairly intellectual. I think I went so far as to say in town schools I would still keep grammar.

19958. Take the case of country schools where there is one teacher, he has to teach a considerable number of classes, six or seven; in order to ease his work you think it better to leave out some subjects?—Yes.

19959. And you prefer to leave out grammar rather than drawing?—Yes.

19960. Why?—Drawing is more easily taught, you can teach a whole class in drawing with much better effect than five or six classes in grammar. It is a case of making your instruction intelligent, it is a case of making your instruction effective, it is a case of giving the children some benefit from their instruction.

19961. But you think ideally grammar is more intellectual?—Yes, if well done, but if not well taught it is not, but it is not now a case of a subject per se but of the mode in which it is taught.

19962. But still you think drawing has sufficient intellectual stimulus in it to make it worth while introducing it into a school at the expense of grammar?—It turns the observation, which perhaps grammar has not done.

19963. And has a certain intellectual value thereby?—Yes.

19964. You distinguish between town schools and country schools?—Naturally.

19965. And in town schools where you have a teacher for each class there cannot be the same difficulty in introducing these extra subjects?—Not at all.

19966. Therefore you would certainly introduce drawing and elementary science?—I would.

19967. Would you continue kindergarten occupations any higher than they are at present?—I don't think I would, the drawing part of it is good, and the remaining parts are pretty good to keep little children employed; in schools where you have no kindergarten the infants are left pretty much to themselves.

19968. I am taking the case of a school where there is a teacher for every class?—Then I would have kindergarten taught there certainly.

19969. Would you have it taught in the first class?—I would.

19970. In the second, supposing there is a teacher for several alone?—Well, I might.

19971. And the third?—No, I don't think I would send it up to the third class, I think the time would be better employed at something else; in the second class the children are young and require some relaxation: seven years is the age in our first class, eight years is the age in second, and nine years is the age in third.

19972. And you think between eight and nine there is a peculiar change in a child's constitution, which makes a particular change in the instruction advisable?—No. Perhaps you are not aware that many of our boys leave at eleven, and it becomes a

question for a teacher and manager to see what is the best education we can give that boy.

19973. But you understand it is not possible, even though you devoted double the time at nine years of age to teach certain subjects more rapidly?—No.

19974. Take a boy at nine, you consider grammar is most intellectual, you say "this boy is going to leave at eleven, it is most important he should have a thorough knowledge of grammar before leaving school, therefore we will devote four hours a day to it." Do you think he would necessarily make more progress in grammar?—No, I think a teacher would be a fool who would do so. I don't think any man should suppose such a man.

19975. Then even if you are preparing children to leave school at eleven, it does not follow that you would make them more perfect in a few subjects by confining them to those subjects?—Oh, yes, I think so, if I wanted to teach a boy reading, writing, arithmetic, and spelling, I could make the boy more perfect by keeping him to those four subjects. Take a possible case that we can argue, not an impossible one.

19976. Take the case of the subjects you have mentioned, reading, writing, arithmetic and spelling: the children are going to leave at eleven years of age, and you think it desirable that they should read a very advanced book at the time they leave?—I think they should be well up, so that they could read any book and take a pleasure in reading.

19977. Do you think by giving extra time to reading you could make the children at nine years of age read the present fifth book?—I think so.

19978. Would you not dull the children's intelligence by confining them so much to one subject?—I am not confining them, I put in the four subjects, your argument is weak on that point.

19979. Is there any special virtue in four?—Take five?—The reason I took four is because those are the four pass subjects in our course.

19980. In fact it is to be determined by experience what combination of subjects will give the best intellectual development to the child?—Everybody admits a boy must be able to read, write, spell, and do some accounts, these are the elements without which a boy cannot go through life, you have taken grammar, and 99 out of every 100 never know grammar, hence I cannot argue with you, but if you take the case of a subject that a boy cannot go through life without some knowledge of.

19981. We agree that these elementary subjects must be taught, you would apparently introduce grammar as an additional subject in preference to such a subject as manual instruction?—Yes, I would. As I understand your point, you want to find out this, will teaching grammar for four hours a day be more effective than teaching it for one hour a day.

19982. In the case of country schools, you would be in favour of a large grouping of classes?—Yes.

19983. You would not have the examination individually in those cases?—No, I think I would make it the class or division.

19984. What would you say to confining individual examination to the higher classes, and having only class examination for the lower?—Yes, I think that would be a very good thing, but personally I am inclined to have individual examination in the more important subjects.

19985. But chiefly in the higher classes?—I think I would maintain it as it is just at present.

19986. You would have individual examination at a stage at which none or very few children had left school?—[I was remodelling the results programme, a very good plan would be to divide one school into three sections—good, fair, and, perhaps, middling; then I would only examine my good schools once every three years.

19987. Such a system as they have in England?—Something like that.

19988. Captain SEAW.—You expressed a strong opinion as to the suitable education for a child, have

you studied many systems except the one in operation under the National Board?—I have read some books.

18993. Have you inquired as to the result of the teaching under the London or Liverpool or Birmingham School Board, and compared the effect on the children?—I have not.

18994. In considering what a child should be taught, have you considered the result of such education in other countries?—After all a certain amount of theory must be introduced. It still goes back to the question whether the manual instruction will develop the intelligence better than the old-fashioned way.

18995. I think you are rather arguing from one side of the question, not having any experience of the other?—I have no experience, but the theory stands.

18996. Yours is an a priori argument, most of it. With regard to model drawing, do you think many elementary teachers are capable of giving instruction in model drawing?—I think any teacher ought to be able to make up as much model drawing as would enable him to teach.

18997. Are you speaking from experience now, or from what you would imagine?—Oh, I have no hesitation in saying that if any teacher puts his shoulder to the wheel he can make up as much drawing as would enable him to make a sketch of anything.

18998. Have you any idea of the number of persons who send up elaborate drawings of models to South Kensington?—I dare say so. I say the teacher ought to have some instruction, but he could arrive at that amount of information himself. Dr. Evans asked me would I recommend that old teachers who had no certificates should teach this, I said yes, of course, for I cannot understand a man of intelligence not being able to get up as much drawing as would enable him to teach the elements of drawing.

18999. You think any teacher could see whether a model was correctly drawn?—He might not, but he could give a boy a fair idea of how he should go about it.

19000. But in model drawing it would be almost absolutely necessary that he should be able to correct a boy when he went wrong?—Well, if you want our legs to be made perfect we cannot hope for that. If you ask me if a boy should have a man's head on him I say he should not, and it would be a pity he should.

19001. Then you would approve of a boy learning drawing although he may be drawing incorrectly, and the teacher could not show him where he was wrong?—I don't think the teacher need be a pedagogue in order to show them where they went wrong.

19002. Is not drawing from plan and elevation more easily comprehended by anybody, and one in which at once a mistake can be detected?—I think not, it is not very easy.

19003. You think it is a more difficult exercise than drawing a model?—I think so, I refer to simple models.

19004. Do you think it is more difficult to draw the plan and elevation of a cube than to draw a perspective view of it, the plan is a square, and the elevation is a square?—It all depends on how you are looking at it. I think a boy ought to be able to represent a cube on paper.

19005. There are two ways of representing it, by plan and elevation, or in perspective, and the question is which is the easiest way?—I think the perspective would be the hardest way.

19006. You talked about adding measurement as to size, you would make that practical?—Yes.

19007. That is that the boy should actually measure the area, and then calculate from his own measurements?—Yes, I would say a boy ought to be able to take the correct measurement of some little plan.

19008. Could you not cut out a piece of paper,

and make the area equally well?—Yes, or mark out a figure on the floor of the school.

19009. At present, in supplying apparatus, if a teacher wished to undertake the teaching of experimental science he would have to do it at his own expense, I presume?—Yes, except the manager supplied the money.

19010. Don't you think it would be a good plan if some money was earmarked in some way to be spent on apparatus in schools?—I think it would be a very good plan.

19011. You think that is a defect in the present system that there is no compulsion on anybody to spend money in equipping the schools?—No, except the manager is willing to do it.

19012. Mr. Meazoy?—I think you have had upwards of twenty years' experience as an inspector of National schools?—Yes.

19013. Has your experience been confined to the North of Ireland?—I was in Mullingar, the centre of Ireland, and afterwards in Dunganon and Lurgan.

19014. And prior to becoming inspector you had experience of Belfast schools?—I taught a good deal of mathematics when I was a student.

19015. Would you contrast the state of mathematics at present with the mode in which the subject was taught when you were a boy in our primary schools, is there any improvement?—I was at the Belfast model school when a boy, and the model school was remarkably good; I don't suppose you would get in any school in Ireland better taught mathematics than in this school when I was there.

19016. Would you extend that observation to the elements of physical science?—Certainly, there is no physical science in my district, and when I was at the model school we had a very extensive course.

19017. And during the twenty years since the result system have you found the elements of physical science taught?—I may say not. I have one school in connection with the Science and Art Department, in which physical science and chemistry are taught, but it has nothing to do with the National Board.

19018. The physical science which you refer to as taught so successfully was under the ordinary programme of the National Board at the time?—Yes.

19019. What changes, if any would you propose to introduce into the result programme to bring about more successful and efficient teaching of mathematics and the introduction of the elements of physical science?—I think I would give the teachers a choice. I would be inclined to divide the schools into two or three classes, and I would allow schools which got into the good class to teach whatever subjects they liked; I would allow schools that got into the second or middle class to confine themselves to one or two subjects, and I would insist on schools in the low class confining themselves to the elements of education, what a boy would want hereafter, and I would go in for allowing the good school to be examined only once in three years.

19020. You would not have a common programme?—I would have a common programme, but I would limit the third class of schools to the ordinary four or five subjects.

19021. Have you worked out your theory on paper in any way?—I have tried to do it.

19022. Would you find it convenient to work it out and then hand it in for the information of the Commission later on?—Yes.

19023. Mr. Remondet.—In your report for 1895 you refer to this matter, and as far as I can see you anticipate that even the lowest grade of schools would teach a couple of optional subjects?—So I think, I would have allowed them drawing, I had that in my mind, and singing.

19024. Could you tell us what has been in your opinion the effect of the present system of examination for results on the dull boys and on the clever boys of the school?—Well, the probability is that the dull

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boys have got a little more teaching to bring them up to a pass, and when the clever boys were well up to the mark, they were not hurried on to a higher class.

20031. They were rather neglected!—I won't say they were, they got the same tuition as the bad boys, and the tuition made them expert in doing their work, the dull boys were brought better on—the probability is the clever boys might have got on better under the old system.

20032. If any system were adopted by which the general state of the school was taken into account instead of the proficiency of each individual pupil, would there be any fear that the dull boys would be neglected?—I don't think there would be if the Inspector was allowed to choose the boys to examine, if I went into a school and chose eight, the teacher would not know which eight I would choose.

20034. As a matter of fact you don't find that boys who attend irregularly and who obviously will not make the 100 days are neglected by the teacher?—Not at all, they get instruction in the schools, because a teacher may not know until the last quarter whether the boy will not make the attendance.

20035. What is the reason that the science programmes under our rules are not more taken up in the fifth and sixth classes?—The probability is our programmes in science demand too much, and it is a hard programme to teach, and hence teachers find, I daresay, they really cannot teach a boy in one or two days of the week. I think the programmes are pretty high in science.

20036. Even in mathematics?—That pre-supposes a knowledge of mathematics, and the boys might not be able to pass in mathematics sufficiently well, but if you take the chemistry programme or magnetism I think that is rather advanced for our little boys.

20037. About agriculture, could you tell us what has been the effect on the literary instruction of schools of the teacher having a school farm, has he become a less careful literary teacher?—I have only had one case of that in my experience, it was the case to which Colonel Bagshaw referred, and this was a very good case; his school did not certainly deteriorate owing to his farming.

20038. When the boys are brought out to the school farm what kind of instruction do they get there?—Well, I am not sure, of course, you know inspectors have not to examine on school farms, they have only to examine on school grounds. In my district at the present time the boys do part of the work.

20039. Do they get any instruction; are they used merely as labourers?—Oh, no; for instance in the garden the boys are trained practically to put in asparagus and raspberries the proper distances apart, they have practical training in addition to theoretical, then in the cultivation of cabbages they measure the

distances between the rows, they have that practical work in addition to theoretical.

20040. But the practical work is very much the work a labourer would do, the reasons are not given?—The reasons might be given, I don't know exactly just what you mean.

20041. For example, the effect of manures, a highly manured plot producing much better vegetables than a less manured one?—I fancy the reasons there would be given in the words of the book, the book tries to account for that, and I don't think the teacher could give anything else, that would be a part of the theory rather than the practice.

20042. Would it not be a useful thing to show the pupils that the words of the book are exemplified by what he sees before him?—Where the practice would come in would be what given manure would be best for this given crop.

20043. CHAIRMAN.—Or for this given land?—Yes, here is a land and here is a crop, what is the proper manure for this crop, the proper manure would be so-and-so, I am not sure that the teacher could go into the science of it and say "This particular plant requires a given food and this manure provides it."

20044. Mr. REMINGTON.—Does he say "Owing to the constituents of the manure it is the right kind for this land." Would he be able to do that?—His book would tell him.

20045. Would not a little elementary chemistry teach him that?—If he knew elementary chemistry it would be better.

20046. CHAIRMAN.—Does the teacher ever try any experiments such as we saw in connection with the Westmorland County Council, where they divided moory land into plots, and tried the effect with manure depositing on a certain quantity of manure on this plot, and another quantity on the next, and so manure on the third, and weighing the crop and seeing the result of manuring and over manuring and no manuring, and whether a proportionately heavy crop was produced to pay for the extra manuring?—No, I have never seen that done.

20047. Would a teacher teach a boy that at a certain period of the season if he could get his turnips in early it would be better to plant seedlings; but in a wet season it would be better to plant another way?—I fancy they would do that, but that would be more on the farm than on the garden.

20048. Mr. REMINGTON.—Would you tell us whether you can refuse payment for extra subjects where the ordinary subjects are not well taught?—Not now, we had the power once, if a boy did not pass in the pass subjects, he would not be paid for extras, now that only holds where the extra subject is taught inside school hours, but if taught outside school hours the payment of the fee is unconditional.

FORTY-FOURTH PUBLIC SITTING—THURSDAY, OCTOBER 14, 1897,

AT 2 O'CLOCK, P.M.

At the Grand Central Hotel, Belfast.

Present:—THE RIGHT HON. THE EARL OF BELMORE, G.C.M.G., in the Chair; THE RIGHT HON. C. T. REDINGTON, M.A.; REV. HENRY EVANS, D.D.; REV. HAMILTON WILSON, D.D.; W. R. J. MOLLOY, Esq.; CAPTAIN T. B. SHAW, and J. STRETHERS, Esq., M.A.;

with J. D. DALY, Esq., M.A., Secretary.

MR. J. P. DARTON, M.A., District Inspector of National Schools, Belfast, examined.

MR. J. R. DUBOIS.

20038. CHAIRMAN.—You are a District Inspector of National Schools in Belfast?—Yes, my lord.

20040. Perhaps you will give the Commission in your own words your views upon the subject of the need of practical education?—I consider that in many points of view it is most desirable to introduce practical education. In the first place, I consider that even as a system of education, you cannot have a complete system without the work taking a practical shape. There are many facilities that cannot be cultivated at all without practical work, and notably the faculty of observation, and I consider that in schools where practical education of some kind is not adopted those facilities are allowed to go to waste.

20041. Do you think that at present there is not sufficient practical education in the National system?—I am certain of it.

20042. Will you tell us in what way you think it falls in that direction?—I might illustrate it by reference to particular subjects. Take, for example, the subject of agriculture, which, perhaps, most cries out for reform. In agriculture the instruction is absolutely worthless, I consider, unless it is illustrated practically, unless the children are brought face to face with the objects in the fields and gardens, and know the things that they are actually talking about. Otherwise, I believe that the instruction is worse than useless. I might say the same thing with regard to, perhaps, other subjects.

20043. You say the subject is worthless; do you think that is the general opinion of inspectors and educationists in Ireland, because we have heard contrary opinions—very conflicting opinions?—I think the general opinion would be pretty much in that direction at all events. Possibly the word might be a bit strong, but it would be in that direction.

20044. Now do you think that children if they were afforded an opportunity of observing improved agricultural operations step by step, should do so under a specialist or skilled instructor, or do you think that the ordinary teacher should receive sufficient training before he becomes a teacher, to be able to carry on this part of the education?—I think we would have to begin with specialists, but I hope we will reach a time when the ordinary teacher can take his place with proper training.

20045. You think at any rate that there are a few teachers here and there at present who could take it up?—Yes, there are some, but the majority do not know sufficient agricultural operations to be able to teach the subject usefully.

20046. How many teachers in your district?—In my district at present I have little to do with agriculture; my district is confined practically to the large towns of Belfast and Limerick. I have only twelve or thirteen country schools.

20047. Are there any garden plots to those schools?—Not one.

20048. How much ground do you think should be attached to a rural school?—I think at least one rood,

and I think that one rood would serve all practical purposes for the teaching of gardening.

20049. Do you think that if agriculture is not to be taught as a trade, and that the principles of agriculture only are to be taught in National schools, that a rood would suffice?—I was thinking more particularly now of the part of agriculture which treats of gardening. Of course a rood would not serve for the principles of agriculture, including the treatment of live stock.

20050. No, that is not what some of our witnesses have meant by agriculture, but showing more the effect of manure, that could be done in a garden, excluding live stock; they looked upon live stock as being connected with the trade of agriculture, not with the principles?—I think we could not do much more with a rood than gardening successfully. We could hardly do anything pertaining to farming.

20051. Now in those parts of the country where labourers' cottages have been built under the Labourers Acts and gardens attached to them, do you think that it would be advisable that the children of those persons should receive in the schools such an education as would enable them at any rate to make profitable use of those gardens?—Most distinctly, I do. These gardens are of very little use at present; people grow nothing at all in them, that ever I have seen, but potatoes, cabbages, and perhaps a few cress. They know nothing at all about the growing of vegetables.

20052. Now, turning to what we may call the indoor part of the education, what have you to say upon the subject of kindergarten?—I consider it an excellent subject. I know no subject better calculated to make a beginning for a practical system of education, but as we carry it out at present it is only a beginning; we don't develop it.

20053. Do you find that kindergarten is taught in the infant school?—Yes.

20054. But that it is not followed up in 1st and 2nd class?—Well, it may be.

20055. What, as a rule, do you find?—That depends upon the kind of infant school. An infant school may include pupils up to 3rd class. They have to leave after they have reached their fifth birthday, but they may have reached 3rd class at that time; but it is only in some infant schools they have kindergartens. Some years ago I had only five kindergartens in the district; now there are close on twenty.

20056. How is the difficulty about getting the necessary appliances got over in those schools that have come into operation lately; who finds the money for it?—The locality, the manager or the teacher.

20057. But as a rule does the teacher find it or the manager?—As a rule they help each other; they get up a concert or something of that kind among the children and put a few pounds together. The beginning is perhaps a poor, humble one, but they add on from year to year.

20058. Is kindergarten much appreciated by the parents?—I think very much in every school where

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it is adopted; they tell me it has attracted children to the schools.

20059. You say that the only additional furniture needed is a press for the materials and suitable desks, you want objects used in the kindergarten instruction?—I distinguish them from furniture.

20060. But they cost money?—To be sure.

20061. Do you think the special desks are absolutely necessary?—The ordinary desks, if they are of a suitable height, might be used for the purpose, provided you have kindergarten desks; but it is an essential item in the instruction to have desks divided into squares and spaces; a great deal of the instruction consists in drawing lines, which are guided by those squares and spaces. But there are desks that could be put on the desks.

20062. Are you of opinion that every teacher should receive a certificate of competency to teach kindergarten?—I am afraid we would have to insist on something like that. If it were not insisted on, perhaps a teacher might be taking it up who was not competent, and did not understand the system—taking it up for results fees, and instead of benefiting the pupils might be doing the opposite. It requires a considerable amount of skill and sympathy and nerve, and the certificate is supposed to cover these qualifications.

20063. Do you think that a kindergarten teacher requires more than any other member of the school staff, the qualifications of intelligence and sympathy with the children?—I do, distinctly; she has to train the faculties at their very first opening, and that requires nicer handling than dealing with children whose faculties are further developed.

20064. How would you develop the kindergarten system?—I think the development should branch out into two directions, first, I would introduce something in the third and fourth classes that would train the powers of observation of the children; that, I think, could be done by means of object lessons, and the best object lessons of all are concerned with the objects that are actually found in the locality around the school, the plants that grow there, the rocks found there, the minerals or even the natural products, the manufactures of a city like this.

20065. You would connect that with kindergarten?—That would be an extension of kindergarten.

20066. Have you got any paper-folding in your district?—No, except in the kindergarten.

20067. But following on kindergarten?—None as a continuation.

20068. In one or two places we have seen some paper-folding, but it did not appear to be done in the way it is done in England from the blackboard, the children following the lines the teacher drew on the blackboard, and being able to fold the paper from understanding the signs on the blackboard. Do you think if something of that sort were first of all learned by the teachers and then introduced into the schools it would be an advantage?—That might be, but I fancy we could not quite a number of things that would be of even greater importance.

20069. That is principally introduced in the care of the younger children between the infant kindergarten and the higher grade of manual training?—That would be useful, especially when folded from actual drawings before them. I think that would be educational.

20070. I think you have some objection to the term manual training and hand and eye training, will you tell me what they are?—I have no objection to the terms, but I am afraid they sometimes lead to a confusion of ideas; people seeing the phrase "manual training" are liable to imagine it is merely giving the hand a particular dexterity, whereas it properly carries out I consider it is intellectual training of a very useful kind.

20071. Making the children think?—Precisely, and so also of eye training. Undoubtedly you cannot train the eye without training the intellect, and that feature in the training is not properly brought out, and I fancy that because that is not properly under-

stood, is the reason why a great deal of prejudice against this training exists.

20072. You have not seen the Sloyd system in operation?—No, only to read about it.

20073. Perhaps you would agree with me that if it is not taught properly it is better not to teach it at all?—Undoubtedly; that may be taken as a general principle applying to everything.

20074. Do you think it is absolutely necessary that woodwork training should be taught in connection with drawing?—I think to make it properly educational it is: without drawing it is merely handicraft or carpentry.

20075. And had carpentry, perhaps?—Yes.

20076. Perhaps you would give us your views about drawing, to which we have paid a good deal of attention and which seems the most popular sort of manual training—in Ireland at any rate?—I think that as regards drawing, so far at least as to the end of the second class, we cannot improve on the system we have at present, namely, the kindergarten system, and I think that even though we don't carry out the full course of kindergarten in ordinary schools still we could do something, we could divorce the kindergarten drawing from the regular kindergarten instruction and possibly introduce it; and it is a system that would almost teach itself, that anyone could understand. When we pass at present from the infant school to the higher school we pass away from the kindergarten system of drawing to an entirely new system. The teachers who teach the new system, fresh as it is called, know little or nothing about kindergarten and have to commence de novo.

20077. Do they teach drawing at all by the blackboard here?—Very little, I am afraid.

20078. How do they teach it?—They simply set engraved figures, made out on sheets, and put them up in front, and put the pupils in the desks, and give paper, and let them copy away.

20079. The children are teaching themselves, then?—Not quite that, the teacher goes among the children, and points out defects in their drawing, and sometimes points a pencil.

20080. They never teach the way we saw in England—by the teacher drawing the figure on the blackboard with chalk?—I don't think I saw it three times in my life in a school; if we made more out of the kindergarten drawing, and developed it into courses suitable for the 2nd and 3rd classes; introduced, say, curved lines—a point we don't reach in kindergarten—and showed them how to combine these lines in various ways by the blackboard, that would lay a foundation for designing and give them a taste for it. In the 3rd and 4th classes I would introduce mathematical instruments, at all events the ruler and compass; every child should know the use of these; and I would still keep them on at a development of the kindergarten drawing. In the higher classes, after a little preliminary practice at the drawing of these engraved figures, I would put them to drawing from simple objects.

20081. What do you call a simple object—an actual article?—The actual article. The teacher would stand before the blackboard, and with chalk in his hand would show the children how the object should be first regarded, the points he should take in his eye in order to reproduce it on paper, and the teacher would actually draw it on the board, and the children would imitate him, and after a time reach such a proficiency that they could sketch simple objects themselves. I have satisfied myself that the drawing done in 3rd and 4th classes at present is really of very little value—not that the teaching is neglected—but that it leads up to very little, and I have brought some specimens here in illustration of that; that (producing example) in the drawing in second 5th—hardly possible—that is done by children who are taught in 3rd, 4th, and first stage of 5th. Now, side by side with that, I would like you to look at this (producing)—that is drawn by a child in

second 5th, who never passed through the other classes at all.

20082. The inference you want me to draw is, that this child, who has never been taught in the lower classes, draws as well as those who have been taught?—I would like you to look at the figures yourself, but the conclusion is, that the time has been wasted, and this is in a school where it has been fairly taught. I say so, also, they are different classes of children; this second child belongs to a poorer social class, the schools are at opposite sides of a street, not three minutes from each other, one is in a slum, and the age in which drawing has been taught heretofore is suited to a better locality.

20083. You think that drill should not be dropped at the end of the kindergarten course, but that physical exercises should be continued, not merely for the purpose of drill, but for the personal development of the children, keeping themselves neat and tidy?—Decidedly, I find the drill most efficient in securing good discipline in the school, showing the pupils how to walk and move about gently and quietly, and improving their deportment as a whole.

20084. What is your opinion about the teaching of physical science?—I would be most anxious to see it introduced, and I think that would be the second direction in which the extension of the kindergarten should branch out in the higher classes, in object teaching, and the objects to be selected should be those we find in the actual world about us. The objects we have in schools very often are artificial objects made for a set of lessons. I think we might begin very nicely, indeed, for work of the kind if we required the children to know some of the more common flowers and plants.

20085. Rev. Dr. Wilson.—You are favourable to the introduction of manual instruction in a moderate degree?—I am.

20086. What modifications in our present programme would you propose to make room for that?—I think, in a district like this, at all events, and, of course, my remarks are directed more particularly to my own district, in a district like this I do not see the use of grammar and geography in the 3rd and 4th classes, fully 80 per cent. of our pupils finish their school course at the end of the 4th class, as they are then qualified to go to work in the mills by age, and by having passed the necessary standard. And for the last two years of their existence they have been subjected to a great deal of pressure for the purpose of getting the preliminary principles of grammar and geography understood by them, and even when they do understand them they never know the connection between these principles, perhaps, and the actual language—you never reach the living concrete language at all.

20087. You would make an important modification in grammar?—I would make these optional subjects, and then I would not shut the door to any pupil who was willing to remain in school to learn them; and by postponing the commencement of grammar and geography you could do as much work in those years as is now taken beyond five or six years to do. I must say, however, with regard to that, that I would have certain notions with regard to grammar and geography taught to all the pupils, but I would connect them with other subjects, such as the subject of the explanation of grammar, for example. Supposing a child leaving school at the end of the 4th class has been practised in geographical readers and in finding out on the map where places are, that child would have acquired facility in using a topographical map, and a child, as a rule, wants no more than that in after life.

20088. What changes would you propose as to arithmetic?—I think I would continue the study of formal arithmetic in all the schools, but the heavy portions of the programme in the senior classes I would make optional. I think we could do more for these subjects by making them optional; we could do more to cultivate their full study, and that would secure that the children who really needed

them would learn them, and no others, and the teachers would be relieved from the necessity of forcing them on children who don't want them.

20089. What would be your idea as regards Belfast of a change in the time of the school hours, that is to say, suppose they were to meet at nine o'clock in the morning and adjourn at twelve or half-past twelve for dinner, and, after an hour meet again for a short time?—I would consider it a wonderful improvement. I consider the present system of regulating the school hours is not at all adapted to the local circumstances in Belfast, as a matter of fact they all go away here for their luncheons and it is difficult to gather them back again in the afternoon. In a great many cases, of course, they have no playground and they have to let them away. A great many of these children have to go to their fathers and mothers who are working in the factories, with their dinners, and it would be a great improvement to give them a couple of hours in the middle of the day, when they could do their home work and come back again to the afternoon lessons.

20090. You would give them two hours?—Perhaps so.

20091. Mr. SHERIDAN.—You would mark the register again in the afternoon?—That could be done.

20092. Rev. Dr. Wilson.—Would that be necessary. It has been objected that it occupies so much time?—It would be absolutely necessary, our present system consists in cancelling the attendance if they do not come back.

20093. CHAIRMAN.—Then they do call the roll again?—In order to do it in a complete way they should.

20094. Rev. Dr. Wilson.—There is no formal break up in the middle of the day?—No, as far as I understand the rule, it seems to require that the children should remain on the premises, but we have to give it an elastic meaning here because they go away; you could not keep them from doing so.

20095. You approve of that, I am glad to say?—I do, definitely. I recommended that change in a report five years ago.

20096. I see you consider that real education ought to consist in more than mere book learning?—I think so; but I am afraid we are very far behind the age in Ireland, confining it to books and nothing else. My own opinion is that a mere book, especially in an objective study, teaches nothing whatsoever.

20097. Rev. Dr. Evans.—Do we teach too much arithmetic in the schools on the average?—Well, of the kind we teach I am afraid sometimes we do.

20098. Do you agree in the opinion that it would be better if we did not teach so much advanced arithmetic and some more recreation instead of it?—I do. I have actually recommended in reply to Dr. Wilson to make the higher arithmetic an optional subject, keeping on arithmetical teaching in all classes, but of a more practical kind.

20099. Is it your experience as an Inspector that the theory of arithmetic is not sufficiently well taught?—That is my experience.

20100. Could you suggest any way by which, when we are trying to make room for manual instruction, we might do better with the theory of arithmetic?—To do better with the theory of arithmetic you must pay, not merely for the results of some worked out, no matter how they are arrived at, as you do at present, but also for the methods of working them. For example, a sum in simple proportion set out there, that should be done in one or two lines. As we examine at present we have no right to challenge the method in which the sum is done, it is simply a matter of so many answers out of so many questions. If we want to improve the teaching of arithmetic we will have to concern ourselves with the method in which the work is done.

20101. Is the alternative scheme for girls in operation in any of the schools in your district?—I may say in only one, a fairly large Convent school. They have it also in our small country school.

20102. Have you noticed the fact, whether past or present, that I cannot tell you, but have you noticed

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the fact that since this Commission started a large number of schools that taught the industrial programme for girls are waiting to give it up—I have not noticed it because it was not in operation here when you commenced.

20103. Would you be in favour of omitting any other portion of the literary programme?—Yes, grammar and geography. I would have grammar and geography of a certain kind, that is, the leading notions of these subjects so far as they appertain to actual use—correct speaking and writing. I would teach grammar in connection with reading and composition, and geography in connection with geographical readers and topographical maps, but I would postpone the book treatment of them to a later period.

20104. Would you put analysis of sentences into the ordinary programme?—I would, but I would postpone the book treatment of them until a later date and then make it optional.

20105. Have you any manual instruction in the sense in which this Commission contemplates that subject in your division at all?—None.

20106. And you have, no doubt, given attention to it more or less?—Yes.

20107. Do you think it advisable to introduce it?—Certainly, I think if it were introduced in an educational form it should be in connection with drawing, as applied to woodwork. I would be highly favourable to that, but I think that, introduced in the form known as handicraft or more trade carpentry, I don't see any use in that.

20108. Sir Patrick Keenan, who was a wise man and an expert, called it *handicraft* as distinguished from *handiwork*?—I would be in favour of making drawing compulsory in our schools. I would if I thought the teachers were competent to teach it, but I am not confident that they are.

20109. Would you make it obligatory wherever there is a teacher with a certificate for teaching drawing?—I would certainly.

20110. And you would approximate towards making it universal as much as you could?—Yes, by as rapid stages as I could.

20111. Mr. STURTEVANT:—Your district is mainly a town one, is it not?—Mainly; I have perhaps 110 schools in the city, about thirteen in Lisburn, which is practically part of this city, and about fifteen or sixteen country schools.

20112. You had the children leaving these schools at a fairly early age?—Yes, you may say they are all gone when they reach their thirteenth year.

20113. So we must be very careful about the nature of the instruction given to them before leaving school?—Certainly.

20114. Everyone is agreed that they ought to be able to read, write, and do formal arithmetic?—Of course these are the fundamentals of education.

20115. But beyond that a good deal might be done to make the children observant, to make them accurate, and to get some control over their hand, to make them handy?—Distinctly, and we could educate them by addressing ourselves as far as we can to the particular subjects to which they have to apply themselves afterwards, if taken up in an educational way.

20116. These would be important elements of a good general education for children who are going to leave school so early as that?—Certainly.

20117. You would have drawing taught if it could possibly be taught?—I would distinctly.

20118. And you have already invented certain changes you would have made?—Yes.

20119. The difficulty as to getting teachers to teach it, could be got over by a proper system of training?—Yes, and insisting on their taking it as a class subject.

20120. Of course you agree that the powers of observation of the children should be trained by, call it elementary science if you like, or object lesson?—I believe that is one thing we are hopelessly neglecting.

20121. That applies more to country schools?—No, it would apply everywhere, I don't see why we should not have it carried out here.

20122. You don't have flowers growing in the neighbourhood of towns?—No, but you could collect them on Saturdays.

20123. CHAIRMAN:—It is very easy to get out of Belfast into the country?—Precisely, and it would have a most important effect in that way.

20124. Mr. STURTEVANT:—You think then it would be very good for the children to be brought out of town and see the flowers and plants in the country?—It would, and when they grew up to be men and women it might take them out many a time.

20125. Then you would have what they advocate in Germany school excursions, not that the whole school should go at once, but that each teacher should take a class out in the country?—I would, and I think it is a pity that on Saturdays are allowed to go to waste.

20126. And the children's attention would be called to the different things, and they might afterwards be asked in the school to describe what they have seen?—Oh yes, that would be a most important part of their education, to get them to describe what they had seen.

20127. First orally, and then in the higher classes in writing?—Yes; and we don't make the most out of this letter writing at present, we are so very limited in our choice of subjects.

20128. Don't you find as a matter of practical experience in examining in composition the great difficulty is for the children to get something to write about?—Yes, the intellect is not working at all; they are only striving to find out words without knowing that they have any meaning, to fill up the paper.

20129. You spoke about the value of the kindergarten work, you have a high opinion of its value?—Very high indeed, if intellectually taught.

20130. In fact you might regard the whole school curriculum for children who are going to leave so early as simply a development of the kindergarten?—I would.

20131. In that view you would extend the kindergarten and hand and eye exercises much further than they are carried at present?—I would, the hand and eye exercises could take the form that you suggest, these excursions in the country, and cabinets of objects that they might collect themselves could be put together.

20132. I am talking more of the constructive things, you know in the kindergarten they have such things as paper-folding and weaving, similar exercises might be continued in the higher classes?—Distinctly. It did not matter what the material was, provided they were making something definite; the great thing is that they should be doing it according to some definite ideas, and that is the reason I would associate drawing with it; unless you teach some application of drawing you don't get the most possible out of drawing.

20133. You think that making objects would make the children understand what drawing meant?—Distinctly, and it would teach the use of carefully well-planned work.

20134. Such exercises as we saw at the Model school in cardboard work would be very useful for the third and fourth classes?—It would, or woodwork.

20135. Suppose we began with cardboard work and found it had really a good intellectual effect on the children, a good effect all round, then we might advance and consider whether we should not put them some woodwork?—Undoubtedly.

20136. At any rate we might begin with cardboard work in the meantime and leave woodwork until we found how this particular form of manual instruction works?—Yes. In connection with physical science, which I think might be introduced in the higher classes, a great deal of teaching might be done in

getting children to make simple apparatus for themselves.

20137. You think that this making of objects closely improves the quality of the instruction in drawing it makes it more intelligible to children?—Yes, and shows the application of drawing of which they have not an idea at present.

20138. It has certainly an intellectual training of its own?—Certainly.

20139. In fact in a minor way it might be compared to the intellectual training that is given by grammar?—Yes, to be sure, except that you cannot show the object of grammatical teaching until you get actually to the language, and it will take years to do that, whereas you can in this other case.

20140. And there is thus other distinction the children almost invariably find making things very interesting and take to it naturally?—Yes.

20141. Do you find as a rule that children take to grammar with a great zest?—I don't think anyone has ever found it.

20142. And if the results to be got from cardboard work was inferior to that got from grammar, still you feel children take to it more readily?—Yes, it develops their inventive powers and gives them originality, which grammar will never give.

20143. But the grammar itself might be taught more intelligently, I mean to say not from any fault of the teacher, but might it not be regarded as part of the essential teaching of language?—Decidedly. I had in my mind the kind of grammar that would be adapted to children who leave school long before you could give them any idea of the structure of language; I would have a kind of conversational grammar for them.

20144. But the use of grammatical terms at an early stage is useful, the distinction between a verb and a noun?—It might, provided there were very few.

20145. And it is important to teach children that a certain word is naturally connected with another word that may appear further on in the sentence?—True, but that is an essential part of explanation.

20146. But having a grammatical name is often a shortened method of explanation?—Yes, but with us very often they are done with thinking once they get the name.

20147. At all events you are clear that grammar teaching ought to be a help and subsidiary to the reading lesson?—Yes.

20148. CHAIRMAN.—If you were asking a child what the word "unaffected" meant would you consider that it was not partial, a sufficient answer?—I would not.

20149. Rev. Dr. EVANS.—Do you think a child ought ever to replace a word by its equivalent?—To give a proper synonym might be useful, but that would lead itself very much to tricks. I think the best thing would be for him to explain the word in his own language, or apply it in another sentence; the mere synonym never teaches what you require.

20150. Mr. STURTESS.—Is not the teaching of synonyms a dangerous practice?—I think so, anything that leads itself to mechanical methods.

20151. It is very much better instead of asking the meaning of a word, to ask the child the meaning of a sentence?—Yes, in connection with the context.

20152. I think you say that the present method of inspection tends to make the inspector give attention to results rather than methods?—He has nothing else before him very often; our instructions are that we should get so many answers out or so many questions; he is a mere register of answers.

20153. You say you have 18,000 pupils in average attendance?—More now, that was in 1895.

20154. How many of these would be examined?—I estimated 18,000 in the year to which that report refers.

20155. Then you examine each one of those individually?—Yes, sometimes in thirteen different subjects.

20156. And for each of those subjects you must ask a considerable number of questions?—Six would be the regulation number.

20157. That represents an enormous amount of work?—It represents as hard as we can go from morning to night, and from year's end to year's end.

20158. Do you think it is possible for a man with that work to do to give any general consideration to the work of the school?—It is not; and in connection with that perhaps you would allow me to show a return I have here that shows the number of days that an assistant inspector and myself will be occupied during the current quarter, in fact working much harder than in the interest of the school, not to speak of our own interest, we should be required to work. You will see from that there is not a solitary day vacant, and I have any number of other official matters to work in, inquiries and other matters.

20159. In any case with all that enormous amount of individual work to be done you cannot pay much attention to the methods of teaching?—No.

20160. And in it not also the case that your judgment as to the pass or fail or first or second pass must of absolute necessity be somewhat superficial?—I try to form my judgment as accurately as I can, so far as basing the pieces upon a proper percentage in regard to the number of questions answered, and I think the judgment is right enough.

20161. You give a boy six questions in geography, it may happen that that was a part of his geography that he had studied a long time ago and was a little rusty on, and if by accident you had asked him another portion of his geography which he had done recently he might have answered very well?—I guard against that by taking questions from different parts of the course.

20162. Can you make sure that you take questions from every part of the course in the case of every individual pupil?—I would scarcely say for every individual pupil.

20163. And therefore there is a certain amount of haphazard?—Perhaps; and it is not worth while spending such length of time to determine whether this or that particular boy should get first or second or 9. I would retain the right of individual examination, to be applied in cases where I have doubt, but I would not be for employing it in every school, and in the report from which you have been reading, I have made recommendations to meet that.

20164. To come back to the effect of this method of examination on the method of teaching, do you pay any attention to the proper method of holding the pen?—Yes, if I am inspecting a school. But I am rarely inspecting a school. At the Results Examination I pay attention to it, but I am afraid I would be exceeding my functions to insist upon it. We give the teachers so much money for teaching such-and-such a result, and even although we want them to take an educational way to arrive at that, they will insist on taking the line that will arrive at it with the least expenditure of effort.

20165. In the same way with the teaching of arithmetic?—With the teaching of every subject.

20166. In your opinion the ordinary subjects in schools might be taught more practically if you had some change in the method of examination?—Certainly. There is another aspect of school work that we never see at all. Two schools may appear pretty much the same in marking papers, but in one school the children may be enjoying their work, their appetite for knowledge being not only whetted, and they may leave school with a desire to improve themselves, and in the other school they may be disgusted—their minds in a state of mental indigestion—and anxious to escape from school. We never brought that aspect.

20167. We saw to-day in the model school a second class reading the Second Book; one of the members of the Commission heard them read and

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they read well; they were subsequently tested in the Third Book and they read that equally well, in the opinion of the teachers and of those who heard them. It is still two months to the examination, don't you think the time of these children is being very much wasted by being kept at this book?—Yes, I fancy children may ripen for advancement at different times, but it rarely happens that they are well up in their book before the examination. Of course in good schools they are fit for promotion before you come to the examination.

20168. But it is desirable to make allowance for the exceptional cases?—I think so. It is in the interest of the teacher at present to keep them in the second class because he is sure of his fees there.

20169. Suppose you had this interval in the middle of the day in Belfast, you think it would be necessary to mark the register a second time?—Disturbance.

20170. It has been put to us that that is a tedious operation and would waste the time of the school. I suppose you are aware that the process can be systematised so as to have a large roll-call in a very short time?—Oh, to be sure, I don't think there is very much in that objection.

20171. Captain SAUND.—Have you had any experience of schools where manual training is given in the upper classes?—No, not any in this district.

20172. Abroad or anywhere else?—I have looked in sometimes at schools in England and on the Continent, but I have not made a detailed inspection.

20173. You have had experience of schools in which kindergarten is taught, and where kindergarten is not taught?—To be sure.

20174. Do you find the time spent in kindergarten in any of these schools prevents the children obtaining the same literary proficiency as in other schools?—Not the least; on the contrary, it brightens the children and puts their minds into a receptive condition.

20175. You brought us two drawings. You said one was done by a child who had never been taught before, and the other by a child who had gone through the whole course, and you deduced from that that the teaching in the lower standards was useless?—I did not exactly deduce it, but I gave you these in illustration of the conclusion that had been formed in my mind for some time.

20176. If you had drawing made compulsory in a school or taught throughout a school, would it not be a good thing to put the children together regardless of their standards so that they were put together according to their powers of learning drawing?—It might be a good thing for drawing, but I am afraid it would disorganise the work of the school rather much. I would not be in favour of classifying according to subjects.

20177. You could not classify according to all subjects, drawing is rather an exceptional subject?—I don't know exactly that the advantages would compensate.

20178. CHAIRMAN.—In the National schools in Ireland it is necessary to classify the child in such a subject as drawing according to the class he is in in the school?—It is, my lord.

20179. Then a child who was in a certain class in the general literary work of the school must necessarily be in the same class for every other subject?—There are some extra subjects which proceed by stages in which the child is eligible for instruction when he attains to first stage of fifth. A child at first stage of sixth may be at first, second, or third stage of a subject, but that does not apply to drawing.

20180. Captain SAUND.—If drawing was not taught in all schools, the difficulty arises that a child coming from a school where no drawing is taught, has to start, if it is in the fifth standard, at fifth standard drawing?—That may happen, as at present, but if drawing were taught on scientific principles all the way up, I don't think that could possibly happen.

20181. Not if it were universally taught, but you apparently did not approve of its being taught universally until the teachers were all trained?—I would be in favour of its being taught universally if the teachers were competent to teach it.

20182. But you put in the "if." You would object if the Commissioners issued an order that drawing was to be taught in every school?—I don't think we are prepared for that.

20183. But you would wish that in any school where there were teachers competent to teach it drawing should be taken up at once?—Certainly.

20184. Then in those cases you would have children coming to these schools who had not been taught drawing in other schools?—Yes, but they would fit in with the class, so little has a child learned from the way drawing is taught in the lower standards that a child could fit in at once.

20185. Would you make that an argument for not teaching drawing in the lower standards?—No, but I would teach it in a different way; I would develop Kindergarten drawing with the use of elementary instruments. In the higher classes you might branch out into two directions—either giving practical geometry with mensuration, or else freehand drawing with objects. One teacher may be better able to teach practical geometry and another to teach freehand drawing.

20186. Would you be in favour of special inspectors in drawing, to start drawing in the schools?—Yes, I think so. If we had a little more time we could do more in the way of encouraging it and helping it and inspecting it, but considering the limited time we have, and in any case the more help the better, I think some permanent inspectors might be useful.

20187. Do you think that both geometrical and freehand drawing might be taught throughout the standards?—I don't think so, that might be too heavy.

20188. Have you looked at the programme for drawing in England, which is compulsory on all schools?—Yes.

20189. Are you aware that they teach both geometrical and freehand throughout there?—Yes, to be sure; but you see we are a good deal behind here at present; it might be possible after a while.

20190. But they started with children on the same basis when they came to the school first. All the teachers are certificated for drawing there and qualified?—No, they are not, not necessarily with regard to drawing.

20191. Would you think it a better arrangement if you had a subject called English, which included grammar, reading, and composition, and the teacher might devote what time he liked to each particular subject so long as in the end he produced a good result?—I think the three subjects should be taught in connection to a great extent; we may call it what we like—reading or English—but I fancy in teaching the one we should cover the ground which is represented by the three.

20192. Do away with the grammar book altogether?—I would do away with the grammar textbook, except that I would make it a special subject or optional subject.

20193. Mr. MOLLER.—I agree from your remembrance that you are strongly in favour of the introduction of kindergarten where it has not been already introduced, and its extension?—Undoubtedly.

20194. Also of elementary science on a larger scale than at present?—Yes, the natural sciences is particular.

20195. You have indicated the way in which that might be conveniently carried out?—Natural science is one subject particularly adapted to children.

20196. You are also in favour of the introduction of manual instruction?—Yes.

20197. Have you thought out any scheme, worked it out absolutely on paper, by which these improvements

could be introduced into our present system?—I can only say I have put anything on paper, but I think I could very quickly make out a provisional programme as regards elementary science.

20198. Would you kindly do so at your convenience and hand it in?—Yes.

20199. By natural science what do you mean?—The extension of object lessons.

20200. Captain SHAW.—Only applied to plants and such things?—I would apply it to minerals and the products of manufacture.

20201. Natural science is the science of nature?—Natural science would be the principal part of it; but natural science includes more than plant teaching.

20202. Natural science includes the sciences of nature, the whole of physics and chemistry?—Of course, in its extended sense it includes botany and zoology and biology.

20203. Mr. Maltzer.—Have you thought out any plan by which teachers who are not now intimately acquainted with these branches could acquire a knowledge of them in a comparatively short time?—I suggest there that something more should be done in the training colleges; and it would also be very desirable if they could be drafted over to the Royal College of Science for laboratory work.

20204. By the Royal College of Science do you mean the Dublin one?—Yes.

20205. Even at present are there not facilities for teachers to go up there and get instruction?—No, that has practically died out; the teachers have given up taking in connection with the Science and Art Department as they used to teach formerly.

20206. Do not the facilities exist though they are not availed of?—They don't exist for teachers except such as are actually engaged in teaching Science and Art, and none of the teachers now are. The real case that it could not be worked is that the teachers have given up teaching for the Science and Art.

20207. But that, if I mistake not, is for another reason on account of the change in the programme?—Yes, but it would have the effect of preventing us being able to utilize these classes.

20208. But locally here have you not a very good school of art?—We have.

20209. And could not the teachers here avail themselves of the school of art, especially in connection with drawing?—They could, undoubtedly; and if a programme of instruction in these subjects was drawn up, with respectable fees attached, I fancy the teachers would very quickly qualify themselves for taking them up and teaching them.

20210. You are in favour of having an interval of, say an hour, in the middle of the day, and a roll-call twice?—Yes.

20211. Is there, in your opinion, any practical difficulty with regard to that roll-call?—At present of course we have not what you might designate roll-call, but they are supposed in cases where children don't come back to cancel the attendance.

20212. But if there are two attendances in the day, do you see any practical inconvenience arising?—I see no practical inconvenience; it only involves the loss of a few minutes.

20213. Would it not be possible to have the junior teachers marking the rolls while the ordinary instruction was going on, and thereby economising the time?—Certainly; there is no reality in the objection.

20214. As a matter of fact, that has been carried out in the Belfast schools; it was laid down as a regulation in the model school?—Undoubtedly.

20215. Have you many half-timers?—I have more than thirty schools having half-timers—probably about 1,000 children.

20216. What subjects do they learn?—They drop off in fourth class, as a rule.

20217. Have you any half-time school not carrying out grammar or geography?—Oh, dear no; they are

bound according to the present rules to take up these subjects; there are compulsion in every school.

20218. Are you an advocate for having class examination and taking up all the pupils on the roll?—No, I am not an advocate for class examination as distinguished from individual examination; but when I have my judgment fully formed as to the proficiency of a class, I should be at liberty to note my judgment of the class as a whole; but in arriving at that judgment I should like to examine individually a number of the pupils.

20219. You mentioned that, if in conducting an examination you found defective methods, you had no opportunity, or could not control that in any way?—I have no effective means of rooting out those things.

20220. Have you not in your report the general minute or summary of your judgment of the school, and in that could you not introduce something?—I have; they teach arithmetic very largely by cards, and I consider that a most defective method, except they are introduced at the correct time. I think I did some time ago get a teacher reprimanded for these cards. The result was that if he thought I was coming into the school, the cards would be put away in a hurry, but when I went away they would be taken out again.

20221. That objection referred to, that the boy holds the pens in an improper way, would you not think that a proper matter for comment in your report?—Yes; but two forces would be acting against one another. I would be driving the teacher one way, and the results system would be driving him in another.

20222. Have you not a school observation book, and have you not an opportunity at the moment of calling attention to defects?—Yes, but he won't listen to me, at least not as well as if he were paid for good methods.

20223. Mr. STRAUBER.—Have you always the opportunity of observing it?—I don't know that I have. My head is down on my papers, and I am always working against time on the marking paper.

20224. But on the spot you have an opportunity provided by the Commissioners for calling attention to these defects?—I have, and no doubt the Commissioners would act on my recommendation I make, but from my experience I am bound to say that my calling attention, and repeating the calling, or even the Commissioners' reprimands, are not effective for making teachers choose good methods in preference to bad, if they find the bad will reach the result with less effort to themselves.

20225. You mention that you have a large number of children to examine during the year. I think you mentioned 18,000?—Rather more.

20226. What proportion would you say of those children belong to the fifth and sixth classes?—About 20 per cent.

20227. What percentage would you say included in the infants?—About 20 or 25 per cent.

20228. The individual examination of the infants is not necessary. Now, here is the inspectors' instructions in their Code: "Individual examination of pupils presented as infants may be dispensed with." Would not that relieve you very much?—Not much. It does not take long to examine the infant class; but in any case the Commissioners insist on individual marking. Suppose I examine three or four, and give them each a mark, what mark must I give to the next child?

20229. Could you not conduct the examination of the infants in such a way as to satisfy yourself that every member of that class had been properly taught?—Without examining some of them?

20230. Without individual examination?—I could distinctly, but I could not satisfy the conditions of the marking paper according to my own ideas.

20231. Suppose you had ten pupils in a draft, and "heads up" for all who knew a certain thing, and all hands were held up, and you selected three or four, would not that satisfy you?—Undoubtedly; but I am obliged to put down a specific mark for every pupil.

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20232. What considerations scruple could you have to mark everyone one if they showed vivacity and alertness?—I have always been acting on the principle that if there is a particular child there, and I give the child a mark, that is the mark the child deserved.

20233. By your own individual examination do you really differentiate between 1 and 2 mark—do you undertake by an individual examination of infants to differentiate between 1, 2, 3, and 4?—I have always done so.

20234. Your child No. 1 may get a No. 2 pass, and No. 2 child may get a No. 1?—Precisely, and my papers are always made out in that way.

20235. The chief point I want to bring out is that, while you have 18,000, 25 per cent. are infants that may be examined in the way I indicated?—I don't know that it is 25 per cent. exactly—perhaps more or less; but not a larger percentage than there is in any other district.

20236. Mr. RAMSDELL.—You are in favour of the extension of kindergarten teaching to ordinary schools where there are no organized infant departments?—I am.

20237. Could it be carried out in a school where there was one teacher and one monitor?—Of course I would not expect it would be as efficient, but some of the exercises might be taught. They have to fill up the time of the infants now.

20238. And could it be carried out where there was no class room?—Oh, yes; you could have a few suitable infants' desks in a part of the room by themselves, and they could be put there at the exercises.

20239. You think a single teacher with a monitor could manage the ordinary classes and teach some of the kindergarten exercises?—Yes, if they understood the system. I think kindergarten drawing could be severed from the general kindergarten programme, and introduced even in ordinary schools.

20240. As regards agriculture, would you confine the teaching of agriculture to schools where there was a small plot of ground attached for the practical exemplification of the teaching?—I don't think I would, the teaching of principles, if done intelligently, is worth something, but I would try and introduce some text to see whether the teacher has done anything to illustrate his teaching by reference to the agricultural processes going on round about him.

20241. You would not be content with teaching from the text-book only?—Oh, dear, no, it is not worth anything.

20242. It has been suggested there might be pot-gardening—the rearing of plants in pots—have you seen anything of that kind tried?—Yes, we have it in some of the schools, and it is a very nice occupation for children.

20243. They might be taught the elements of botany, and shown the value of manures?—Possibly, on a small scale.

20244. Could you not show the value of manure in the case of even one plant?—You could, to be sure.

20245. Mr. STANTON.—Would it not be a continuation in the nature of the teaching you were advocating?—Yes, but it would be on a very limited

scale: you could do more systematic teaching by taking the children into the country.

20246. Mr. RAMSDELL.—Then, you would not allow agriculture to be taught in city schools?—Oh, dear, no.

20247. What are the difficulties as to the extension of the teaching of cookery?—As regards the teaching of cookery, one of the principal objections at the present time with the pupils among whom I principally work, that is the mill population, is that they don't seem to know the meaning or advantage of it either of anything else, except earning wages in mills.

20248. Have they not to cook their dinners at home?—I think it is in a very rudimentary way.

20249. In the country districts are they not accustomed to cook all their meals at home?—In a very elementary way.

20250. Would it not be desirable that the parents of the future should cook better?—Decidedly. I am only mentioning the obstacles that we have got to surmount.

20251. Then these mill-workers don't cook themselves at home, but buy it?—I believe they live on tea or three staple commodities, tea, bread, and a few potatoes.

20252. Captain SHAW.—Don't they get their principal meat brought to them?—Yes.

20253. CHAIRMAN.—Who cooks the potatoes?—I think they have the tea cooked overnight, and with regard to the potatoes, I don't think they take them until their day's work is over.

20254. Mr. RAMSDELL.—But your opinion is, that it is advantageous to have cookery taught?—Yes.

20255. Have you any statistics as to what it would cost to start a cookery class?—I have not. I put myself in communication with some of the managers last year, with a view to start some of these cookery classes, and they all complained of the expense. I spoke to one or two managers recently, and I said I thought the Commission would be very anxious to hear an account of these things from them, and possibly they may come before the Commission. The expense, of course, will be a variable quantity. Sometimes a room will be available, and sometimes it will not.

20256. If there was a class-room in the school could not that be used after school hours?—Distinctly, and I think a continuation class would be admirable for such a thing as cookery.

20257. The appliances for artisan cookery are not very numerous or expensive?—Oh, not at all, and the cookery should be adapted to the materials they are likely to have—simple cookery. Something should be done also to show them how to keep their homes comfortable.

20258. You would be in favour of including housewifery in the subjects for which we might give a fee?—I think domestic economy, hygiene and such subjects as these for girls in the higher classes would form a suitable equivalent to the elementary science for boys.

20259. I saw that in the model school they had taught the girls how to lay a table, and clean up rooms—would you extend that, and teach the girls the duties of a housemaid?—I would, distinctly

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Mr. WILLIAM PEDLOW, B.A., District Inspector of National Schools, Belfast, examined.

20260. CHAIRMAN.—You are District Inspector of National Schools, Belfast?—Yes, my lord.

20261. Does your district admit that of the last witness?—Yes.

20262. How do you divide Belfast?—Shankill road is the dividing line, I am to the south of it.

20263. Perhaps you would give the Commission your views upon the subject of drawing in National schools?—Drawing is best taught in the kindergarten schools, it is commenced there by the children who

see five years of age, it is continued until they are between eight and nine; then the teaching is not so good in the summer classes, for it is taught in an entirely different way. The kindergarten teaching is altogether practical, the child at once commences to draw lines in the right way, horizontal lines from right to left, and left to right, and perpendicular lines from top to bottom, and bottom to top, and that is continued through the whole course. Then it builds the "form of life," first with sticks, sometimes with cubes, and

gets a clear notion of what it is drawing before it commences to draw it at all.

20265. What is the fault you find with the drawing as taught in the senior classes?—There is no connecting link whatever between the drawing in kindergarten and the drawing in the senior classes!—In the senior classes charts are put up before the pupils either on an easel or a blackboard, the pupil gets a sheet of paper, and makes as fair a copy as he can, he gets no teaching from the teacher on the blackboard, the teacher usually goes through the paper, from pupil to pupil, and points out any errors, and draws a little himself, and that is the way the lesson proceeds. The teacher does not use the chalk at all, which I think he should do. And he might frequently put the object before the child, say an ordinary inkbottle, and draw the outline on the board for the child. Of course these sheets that are used are very convenient, and in the end the pupils are able to make a fair copy, and use the pencil freely, but the subject is not very interesting when dealt with in that way.

20266. What do you think about the subject of kindergarten generally?—I think it is excellent, it is really manual training as far as it goes.

20267. You would have it carried on to higher stages?—Yes, I think it should be carried on to even a greater extent in infant schools, the infant schools might, in some cases, be allowed to retain their pupils for another year, and in that way there would be an extension of kindergarten in all its details. The drill and drawing, which are excellent, might be extended to the senior classes.

20268. But there is some drill in the senior classes?—It is not universal.

20269. In the model school?—Yes, but in a great many schools in my district there is no drill.

20270. Is the model school in your district?—It is.

20271. Would you tell us what practical instruction is given in your present district?—There are three classes, two large classes in handicraft, and one small class, there is practical instruction in cookery given at the model school, but only at the model school.

20272. Do you think that the instruction given in cookery is satisfactory?—Very satisfactory, and most successful.

20273. Is the instruction given in handicraft successful?—The instruction in handicraft has not, I think, been very popular.

20274. Do you think it is well given? It is not given in connection with drawing?—It is not.

20275. Can you give proper instruction in woodwork unconnected with drawing?—I think not; I think there should be drawing.

20276. You agree with me that it would be practically impossible to do so, the child must trust to the eye if there is no drawing?—There should be drawing.

20277. Rev. Dr. Evans—You are the responsible manager of the model school?—Yes.

20278. Are you satisfied with the provision for rendering the teaching of drawing efficient in the model schools?—No, I am not altogether satisfied with it.

20279. What do you think is the disadvantage there?—We should have a lot of models, but we have practically none.

20280. What models would you particularly desire?—I would first take the cube, cylinder, and cone, and commence with those, and advance from stage to stage.

20281. And if you were provided with these models, you have reason to believe, as the manager of the school, and a very experienced classmaster, that the teaching of drawing in the model school would be more efficient?—Yes, it would, but of course the results programme as at present drawn does not actually require model drawing, and

consequently to some extent it has been neglected, whereas formerly in the model school it was taught.

20282. You have been a considerable time in this district?—Nearly five years.

20283. You have come in contact, no doubt, with the objections entertained here towards the alternative scheme for girls in the sixth class?—Oh, yes.

20284. What is the nature of the objections?—One objection is that made-up materials are very cheap, and can be purchased very readily here, and the other and great objection has been made on the part of parents that they think their children should go to school for literary work, and not for this industrial training, that is one of the real objections.

20285. They think the little time that children have at the primary schools should be given to literary instruction, as they won't have, after they go to their calling in life, an opportunity of acquiring this information?—Exactly.

20286. Have you ever seen the document that the managers of schools in Belfast sent to our Board in reference to this alternative programme, asking not to have it put in force here?—I have not seen the document.

20287. You heard the evidence of your colleagues with regard to a modification of the curriculum in arithmetic and measurement, do you share those opinions?—To some extent—to a considerable extent—as regards arithmetic, I think that there should always be oral arithmetic in every school from first class up. It is quite as difficult to make a child know its tables thoroughly as it is to add. Mental arithmetic should be continued step by step, examined separately, and paid for separately, and in that way the boys would be made good calculators, and I cannot say they are now.

20288. Do you think children in the model school properly understand the reason for "carrying" in subtraction?—I don't think so, because I don't think the subject is taught. I think the theory of arithmetic is not very much taught, the questions asked at the results examination don't require much theory, nor do the cards contain many questions where a knowledge of theory is required also.

20289. Do you happen to know whether the pupil teachers would be asked to explain the reason of "carrying" in subtraction?—I don't know, I have never seen any attempt to explain it.

20290. Are you of opinion (as one of the inspectors reported in a special report) that the contents of inspectors' cards in these subjects are known throughout the schools before the examination comes on?—I don't think the contents are actually known, but the nature of the questions is pretty well known.

20291. If after the examination for results conducted by an inspector a teacher were to reconstruct his classes and ask the pupils one by one "what questions did you get?" and take them down, and pass that information on to another teacher, and he did the same thing, and on to another, and he did the same thing, in three or four or five cases, would they not be able to actually have in their possession the contents of the inspectors' cards?—It would be quite possible to have the contents of most of them if that were done.

20292. And this practice would affect the examination in results and form an argument against the results system?—It would form an argument against the results system in arithmetic.

20293. You agree with Mr. Dalton with regard to the introduction of measurement?—Certainly.

20294. Is algebra taught to any considerable extent?—Yes, algebra is taught in a large number of my schools.

20295. Do you think the theory of arithmetic could be better taught through algebra than by arithmetic itself?—Decidedly, in more advanced arithmetic.

20296. The algebraic formulae would remain more readily in their memory; also difficult questions in

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arithmetic are sometimes more easily worked by algebra?—No doubt.

20297. Suppose we were to introduce any system of manual instruction, such as we have been contemplating, could we shorten the time devoted to advanced arithmetic and some of the higher subjects?—I think so.

20298. How would you suggest we might do it?—I would make the arithmetic in the higher classes much easier, especially in first and second stages of sixth, and attach a great deal more importance to mental arithmetic and pay specially for it. I think that the teaching of grammar and geography might be made optional, they are not subjects to be neglected at all, but taught in a different way without going into details.

20299. Do you think that the compulsory teaching of explanation in connection with reading will much more occupy the teacher's time?—Yes, it has been more beneficial though.

20300. But I am anxious to know how it bears on the time of the school?—Several teachers have told me that they had to extend the time.

20301. Is there much dictation done in the schools?—I should say about three days a week and, perhaps half an hour each day.

20302. Would you be in favour of trying to teach drawing at all in a school under a senior teacher who had not a certificate in drawing?—I don't think it would be a success; but, he might not have a certificate in drawing and yet be able to teach, in that case I would let him try.

20303. Suppose managers were to say "Drawing is now made of great importance and almost obligatory, and we must get a teacher that can teach drawing, and if you don't qualify we will have to part with you and get another," do you think that would be fair to the other teachers?—I think it would be very unfair to dismiss a teacher because he did not know drawing.

20304. If we could devise some method by which in such schools drawing might be usefully taught, don't you think it would be a very desirable thing?—Most desirable.

20305. Mr. SHAWMARA.—Your district is somewhat smaller to that of Mr. Dalton?—Yes, I have forty rural schools out of 139 in the district altogether.

20306. Do you agree with the best witness that the present method of examination tends to lay stress on the results of the examination rather than the methods of teaching?—Oh, decidedly. It is what the inspector wants that the teacher very frequently considers.

20307. You agree generally with what you heard Mr. Dalton say on that subject?—Certainly.

20308. How long have the cards that you are at present using in the schools been in use?—They have been in use for some years, I cannot say how long, some have been in use for five or six years.

20309. Don't you think it is extremely probable that these cards must be pretty familiar by this time?—The nature of the cards must be known.

20310. And don't you think the actual figures?—I don't think the actual figures are really known.

20311. It is quite possible to take a copy of the cards?—It is if a deliberate attempt was made.

20312. Short of making a copy might not the children give a practically accurate account of the card for all purposes to the teacher?—Certainly.

20313. You would have drawing taught as part of a good general education?—Decidedly.

20314. Also elementary science?—Yes, as far as the time would permit.

20315. And you think highly of the effect of kindergarten instruction so far as you have seen it?—Yes, I think it is excellent.

20316. You think it might be carried a little farther?—Certainly, portions of the programme might be extended to senior classes.

20317. Would you regard such a subject as card-board work, which we saw in the model school to-day,

as a suitable extension of kindergarten work?—Certainly.

20318. Captain SHAW.—You mentioned that model drawing should be taught with the blackboard, have you ever seen this done?—Very little, I have seen it done in two schools only.

20319. Do you recommend it as a good method of teaching model drawing?—It was drawing from the flat I referred to, not model drawing, I mean outline drawing, but frequently the object may be put before the child.

20320. Each child would have a different view, and you cannot draw one view on the blackboard as you would have all the children copying it?—If the teacher draws the object properly on the blackboard the children see it, that is a better plan than at present carried out where the teacher puts a chart before the children.

20321. In talking of the object you mean a flat drawing?—A flat drawing.

20322. Suppose you want to introduce some of these new subjects, do you think they would be taken up in the schools if there was no money to be made by the teacher out of them?—I don't think they would be successful if there was no money to be paid to the teacher. I think the teacher must certainly get some money for his work. Do you mean outside school hours or inside school hours?

20323. Inside school hours?—Yes, I think they would be successful inside school hours.

20324. Suppose all the necessary apparatus was paid for and a grant given which would cover wear and tear, would the subject be taken up if no results fees were paid for it?—No, I don't think the subject would be successful except there was a grant in some way made.

20325. If the system of results fees was continued it would probably be necessary to displace some of the subjects on which you get results fees now and pay results for the new subject?—Yes, or else pay a merit grant for manual training.

20326. Would you like to see a grant for discipline in the schools?—It would greatly improve the schools.

20327. If such a grant was made would you consider it necessary that part should be spent on the school or would it not imply that part of it was spent in providing suitable apparatus?—That should be distinct from the merit grant.

20328. Mr. Meeley.—Are you in favour of the present system of conducting results examinations by the inspectors?—I am not.

20329. Would you briefly indicate the leading points on which you desire a change?—In large schools I don't think an individual examination of the pupils is required, a few might be examined, five or six might be taken in reading out of a class of twenty, an inspector when he has taken that number would have a very good idea whether the subject were well taught.

20330. Then you would pay for the whole class?—Yes, and writing is a subject that takes very little time.

20331. Would you extend the payment also to pupils who had not attended the minimum number of days provided you found they were fairly instructed?—Oh, yes.

20332. And in that way virtually all the children on the roll on the occasion of the results examination would undergo some examination?—It would be wise that they all should be examined.

20333. And in the earlier stages of the results system was it not a fact that all the pupils on the roll were required to be present on the day of the examination?—Not since I was appointed.

20334. Have you many evening schools in Belfast?—Only one, the model school.

20335. Some years ago the number was very large, I have personal knowledge that it was twenty-seven in the district that you preside over. What led to the falling away in that number of important

schools?—I really could not say. I know one evening school was opened a couple of years ago here, the pupils attended for a while and they gradually dropped off, would not attend.

20336. Do you think the idea of evening schools is not in favour with managers and pupils?—I know managers are in favour of them. But it has been a failure, the grown-up boys and girls won't spend their evenings at the evening school; I think if there was probably manual training introduced, it would make an evening school attractive. Literary work only to young boys and girls, not very well prepared, is tedious, and they get fatigued and leave.

20337. If the present programme of the National Board for evening classes was modified you think it would lead to an extension of the number?—I think it might be modified.

20338. Mr. RABINOVICH.—What did you think of the proposal made yesterday, that schools might be divided into three grades, and those registered as excellent might not be examined annually each year?—There is no need to examine a school that is excellent every year, if its reputation was well-known, incidental visits would be sufficient.

20339. You lay great stress in your report on incidental visits and visits made without notice?—Yes, I think to see the school in its ordinary working state is the best way of forming an idea of how the teaching is going on.

20340. At such visits the inspector could examine a class or the whole school if he wished?—Yes, and could observe the method.

20341. The great advantage of that system is that he could observe the method of the teacher which he cannot do at present?—Yes, the results examination day is not a good day to observe method.

20342. Would you limit the number of extra subjects to be taught in the case of badly conducted schools?—Decidedly, I think a badly conducted school should not be allowed to teach extra subjects except singing and drawing.

20343. Mr. STRATHFORD.—Do you find extra subjects are often taken up in schools where the literary work is weak?—I do not.

20344. Mr. RABINOVICH.—I see that you say in your report that grammar and geography might be regarded as optional subjects, but that the merit point should be such as to encourage the teaching of them, and that no highly classed or trained teacher should be allowed to omit them from his programme?—A highly classed teacher can do a great deal more work than those of medium ability.

20345. You strongly advocate class examination, and say that 50 per cent. or less of the children

would be quite enough to examine?—Yes, to form an idea of the whole school.

20346. You say "It would seem ludicrous to give a child of four or five years of age a failure in kindergarten where the subject is well taught, to examine and give a failure to a child who has no mental case, if the work in general be excellent, and in a very well-taught drawing class to tell out one or two, through as fault of the teacher, and give them a failure?"—Yes, it nearly always happens that the child who fails is the one that has given the teacher most trouble.

20347. CHAIRMAN.—Is there any temptation or the contrary to the teacher with the present system of working for the results examination, to give most of his attention to the clever children and neglect the stupid ones, or is it rather the other way?—I think the teacher pays most attention to the stupid boys, the clever children do with very little teaching, under the results system they are sure to pass.

20348. Is it not alleged with regard to the Intermediate examinations that the effect is exactly the other way, that it pays better to attend to the clever children and let the stupid ones alone?—The reputation of the Intermediate school profits greatly by the clever children.

20349. Mr. RABINOVICH.—I see in the same report you say "Class examination should aim at discovering and encouraging successful teaching, and discouraging merely mechanical and cramming work, this could, I think, be best accomplished by attaching special importance to reading taken in connection with explanation, to oral as well as written arithmetic, and writing in connection with composition." Is that still your opinion?—It is.

20350. Mr. STRATHFORD.—Do you often find clever children who really can read a book in half a year and are kept reading the same book for another half-year before they are advanced to a new book?—Yes.

20351. That is a bad system for the purpose of education?—Yes, it keeps a child back.

20352. Rev. Dr. EVANS.—Arising from the answer you gave the Chairman about the teacher devoting his attention more especially to the backward children—then those backward children do not pass?—Sometimes.

20353. Then is it that the teacher gets no pay for the children on whom he bestows most pains?—Yes.

20354. Then that is a strong argument against the results system because he is not paid for the best work he does?—In the first place the clever children are not allowed to advance, and then the teacher's attention is taken up to a great extent with the backward children. At the results examination I have been frequently told "that child gave me more trouble than all the others in the class."

EL. M. BRATY, LL.D., District Inspector of National Schools, Newtownards, examined

20355. CHAIRMAN.—You are the District Inspector of National Schools in Newtownards?—Yes, my lord.

20356. Does your district take in any part of Belfast?—Yes, the Ballymacnab division, east of the Lagan.

20357. I understand that you are not prepared to speak upon manual instruction generally, but there are a few subjects connected with it on which you can give your opinion. What are your views as to the system of individual marking at results examination for determining the value of the teaching and encouraging improved means?—I think the necessity for individual examination has passed away. When the system was introduced most of the teachers were untrained and very unskilful and very badly educated, and they were perfectly ignorant of methods; it was necessary to lay down a special point and say "You are to teach so many facts and then we will give you so much money for it." That is a thing that appeals to the most uneducated intelligence, but the circumstances have changed, a far larger number of teachers are trained,

and they have acquired proper methods and may be allowed more liberty and therefore may be allowed to return to a system of teaching proper and not preparing for examinations. There are several objections to the results system and systems of individual examination, and one is that it permits no latitude to the teacher, no choice of methods, no choice as to how he should deal with a subject. If you restrict a teacher he cannot possibly show an interest in his work and infuse an interest into the children and draw out their intelligence. For instance, if you take the case of geography, from our method of examination it seems to me almost absolutely impossible there should not be a uniform programme laid down in order to facilitate the assigning of marks, because if there is any divergence, if there is any latitude allowed to the teacher, it is difficult to co-ordinate the two programmes, and say One for that programme has the same value as One in another programme. Take the case of England, they have four or five alternative programmes, in Saxony they have ten, in Württemberg there is no pro-

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L.L.B.

grammar, the teacher simply draws up his own syllabus of examination and says "I will teach it in that way during the year," and it is submitted to the Department and they approve of his teaching it in that way.

20358. Does that apply to other subjects than geography?—I take geography because I think our programme is specially unsuitable, but it does apply to others.

20359. In what way is it unsuitable?—The teaching of geography in my experience begins in this way. A teacher gets up his third class in the beginning of the year reads the map, so the first child he points to the map and he says "Edinbur," the child then repeats it after him, he points to another place which is painted a different colour and he says "France." The child learns that by heart, and when he has gone over it the children repeat it. He puts the pointer on the map and the child says "France." A child at that age has no conception of what France may be. Probably if he is a child in the country he knows his nearest market town; if he is a child in Belfast he knows two or three surrounding streets; he has no idea of what his own country is like, much less of what the whole country is, and a child is never told what this is, he may be told it is land or water, but he is not told anything else. Compare that with a real intelligent method of teaching geography. I have no practical acquaintance with German schools but from what I have read of them it appears they lead the children up to a hill and show them the country.

20360. They teach geography from the school-door, as it is called in Germany?—They teach geography from the school locality. To illustrate that, I have quite commonly asked in a school: "Show me the country you live in." The child could point out Bernece or the Torres Straits. "Show me the country you live in." No answer. "What is the name of the country you live in?" "I don't know." I have asked another child—"Show me Ireland." They could not show me Ireland. The other day I asked a child what province she lived in, she said "I live in Munster." Another told me she lived in Leitimer.

20361. Do you think that it is a very questionable advantage to retain grammar and geography in the list of compulsory subjects?—Yes, my idea is that a child should be taught to read and write, and so much arithmetic as will keep him from being swindled by shopkeepers, but beyond that, that he is to be trained, and the more choice you leave to the teacher of the subjects in which he is going to give the training the better. One teacher can teach grammar with advantage, another can teach geography, another can teach drawing, let him take up any one, or the whole lot, but make none compulsory.

20362. Would you agree with a view put before us by a witness the other day—one of the inspectors of schools in the South of Ireland—who said that he would still retain individual examination for the three subjects you have mentioned, reading, writing, and arithmetic, and he also added drawing, but with regard to the other subjects he would leave them all to be examined by means of class examination without individual examination?—Well, there is something to be said for that, but still the continuance of the individual examination leads to cramming.

20363. Even in those subjects?—Even for those obligatory subjects I don't think it would be desirable.

20364. I see you have something in your memorandum—although it is not directly within the scope of our inquiry—with regard to the character of reading in National schools. I have visited several of the Model schools all through Ireland, and for the first time to-day I found a boy whom I could follow when he was reading. Have you any views on the subject of what the teaching of reading should be?—I think that a stranger coming in ought to be able to understand any child reading, and that is not the case

at present. I have frequently sat beside a messenger and said to him, "Can you hear what that child says?" "No," he said, "I cannot." I have asked the teacher with regard to a particular word and he could not tell me what the child was saying.

20365. Without the book in his hands of course?—Yes, if he had followed the child he could guess the word. But with regard to that there is one special opportunity I have of comparing the proficiency in England in reading with the proficiency here: and that is that there are occasionally English boys presented in Ballymacarret classes, and I find their reading is of quite a different character. The Irish child, as a rule, slides into the reading somehow, he stutters or stumbles, but it does not appear as if he really knew what he was going to read about. An English boy straightens himself, and sets right off as if he knew beforehand what he was going to read, and what intonation and expression he should give to it.

20366. Would you be in favour of making distinctness in reading necessary before a mark was given?—As part of the qualification—oh, certainly.

20367. It is not the case at present. If an inspector finds a boy can read so as to understand himself what he is reading, he is bound to give him a mark, is it not?—I think that is practically the case, it is expected we should give a boy a passmark if he decipheres the words. My reason for putting in that first point was with a view to show that the accommodation was so limited in Ballymacarret, and west of the schoolrooms was so great, that it would interfere seriously with the introduction of manual instruction.

20368. With regard to manual instruction, we found by experience in England that it is absolutely necessary to provide special accommodation according to the rules of the Department, and probably if introduced here it would be so too. We have not gone into that point, we have taken it for granted, I mean in wood-work—of course cookery is taught in the classroom in England—but manual instruction, in the sense of wood-work, is in no case to be taught in the existing classroom?—From my own experience, I don't see where the classroom would come from.

20369. Rev. Dr. Winkless—How many schools in your district?—153.

20370. Are many of the teachers in those trained?—Yes, the number is large now, I should say some thing between a third and a half are trained.

20371. I suppose very few would be able to teach manual instruction as we understand it?—I don't think at present they could teach it at all, because they have had no training, and I don't think they know what it means.

20372. I gather that you think that the programme at present does not develop the intelligence of the child, because when you ask a question out of what he taught he seems not to be able to give a proper answer?—Yes, that is the case. For instance, in first class they have to add three lines of two figures each. I gave three lines one in which there was no carrying, and the result was that half the children in the class failed, although it was a well taught school. I tried them then with carrying and they all passed, they expected to get questions with carrying.

20373. As regards Ballymacarret—which is of course a very crowded district, and where manual instruction would be very important for the children—you say that there is no provision in the school for that?—No, the schools are quite overcrowded.

20374. Assuming a room was built suitable for cookery, and another room for laundry, and all the requisites provided, and that was to be a centre for say five schools round about it, would there be any difficulty in inducing the children to give an hour each week to each of these?—Outside school hours.

20375. No, inside school hours?—I think it would very seriously diminish the time they have at present, and I don't think that is too much.

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20374. By enrolling some of the branches so as to obtain time, do you think the children would suffer much in their literary attainments?—No, I don't think they would suffer in their literary attainments at all, that is so far as a limited number went. I think they would carry out their literary work with more intelligence and thoroughness.

20377. Quite so; all the testimony given us in England was that they came back with fresh zest to their literary studies, and lost nothing by giving an hour in the week to literary instruction, that being regarded as a recreation. You have a Model school at Northwards?—Yes.

20378. Is it in a prosperous condition?—Yes, taken as a whole I think I can describe it as prosperous; some of the departments in it are taught remarkably well.

20379. The numbers are fairly large?—Yes, they are increasing.

20380. Mr. STRUTT.—You agree with the previous witness in criticism of the result system as tending to draw attention to results rather than methods of teaching?—Yes.

20381. You advocate greater freedom for the teacher in forming his course of instruction?—Yes, I think the more freedom that is left the teacher, once you go beyond certain limits—absolutely necessary limits—the better.

20382. That is to say, the teacher, instead of working according to the programme laid down at the beginning of the year, should rather state at the end of the year what he has been able to do, and the inspector should examine on that?—Well, I think you must have a statement beforehand, because there might be injudicious teachers who would adopt a haphazard method; you must see beforehand.

20383. That is an outline—the limit on which he was going?—You could not have it in detail.

20384. But it might be from special circumstances that the teacher was not able to undertake the whole programme laid down for him; it would be better for him to do part of it thoroughly, and state reasons why he did not overtake the whole programme, rather than try and do the whole imperfectly?—Yes, but I think a judicious teacher ought to know beforehand what he was able to accomplish; it would show a want of judgment.

20385. The circumstances of schools differ very much, and what is possible in one school is not possible in another?—That may apply to the case of a teacher coming from a different locality; he might come from a place where the children were very bright to a place where they were extremely dull, but I think that would be very unusual.

20386. Don't you think it would be an advantage to have different programmes of work for schools taught by one teacher, and for schools taught by many teachers?—I don't know that it would be necessary to have different programmes; one teacher teaching a large school should take up the whole programme.

20387. I understood you to say you favoured considerable diversity of programmes?—Yes, but I meant that the smaller programme should be part of the greater, they would not differ qualitatively but quantitatively.

20388. That is, the single-handed teacher would not be expected to overtake so much of the work, but would work on the same lines as the other?—Yes.

20389. I suppose the case of children not knowing the names of the country they lived in was exceptional?—Not very exceptional. I have frequently in good schools found children unable to point out Ireland. I should say it would occur in five per cent of the schools.

20390. Did you not say that they did not know the name of the country they lived in?—They did not know the name of the country, or how to point it out when named.

20391. I think you said that your experience in that English children read better than the average

children in your schools?—Yes, their method of beginning reading is better, and it is better all through; it was what musicians call "the attack" that struck me most; the boy did not slide into the reading.

20392. I have often heard the opinion stated in Scotland that Irish children read much better than the Scotch children?—I don't say that my remarks apply to Scotch children; I have had opportunities of examining Scotch children, and I don't think they read better than Irish children.

20393. Part of your district is agricultural?—Yes.

20394. A large part?—Taken as to the amount of space, it is very much larger than Ballymacarret, but in the actual amount of schools and children examined, the children examined in Ballymacarret are about half.

20395. Do you have many schools taking up agriculture?—All the country schools under male teachers take it up.

20396. Have you any observations to offer on the teaching of agriculture in the schools in your district?—There is a new text-book issued, the old text-book, I think, was a most unsuitable book for children, but apart from that, I don't think any text-book is very much good. But if you have a text-book at all, I think it should not go so much into detail as our old text-book. It was made up of a certain number of farmers' tips, which would be very useful to grown-up farmers, as to the definite amount of manure and so on, but it was not much a thing as would enable a child to apply his knowledge to his experience afterwards.

20397. You would regard it rather as a handbook for farmers?—I should think it ought to be a very useful handbook for farmers to have at hand, and apply to occasionally.

20398. So that the parents of the children might find these books occasionally useful?—Yes, I have no doubt the farmer often took the book from his child and read it.

20399. But you don't think there is much further to be said in favour of teaching from a text-book?—No.

20400. Captain SNOW.—Has a child during his school life much opportunity of putting his ideas into words under the present system?—No, he has no opportunity, I think.

20401. Do you think it would be desirable to introduce instruction which would allow him to do so?—Instruction such as would give him conversational powers—yes, I think it would.

20402. How would you suggest that that should be done?—I have some idea of how it is done elsewhere, as, for instance, now in Germany. I think the usual mode of teaching is to call upon a child, to bring him before an object and say: "What do you see there?" Then insist that the child shall form all his words into regular complete sentences, and in that way of course he gets accustomed to conversational expression.

20403. And experimental science, when it is taught experimentally the child has to watch what is occurring and give a description of it afterwards, that is useful both in furnishing him with ideas and teaching him to give expression to them?—Yes, I believe that is the system that is carried out in Germany.

20404. As a matter of fact it is the text-book that the child always learns from?—Yes, there is too much text-book.

20405. You would be in favour of abolishing a good many of the text-books perhaps and teaching more orally?—I think so; the teaching should be much more accurate, and by means of the blackboard and oral work.

20406. And you think by these means the children would attain greater facility in composition than they have at present?—Yes. If the children were called

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upon to form their expressions in regular and consecutive shape.

20407. Is drawing taught in any of your schools?—Yes, it is taught in more than half of them now; I should think there are 35 or 36 now.

20408. Do you find that the children have sufficient room for drawing in the schools?—No, I don't think they have. As an instance of the want of desk room I might say that I was in a school the other day where the first class alone filled all the desks in the senior school; it was divided into an infant and senior department, and the first class alone filled the desks of the school.

20409. Do you think it is possible to teach drawing properly if a child cannot move its elbow because the next child is against it?—It is very difficult, and it may be taught under difficulties to a certain extent, but it must be very imperfectly.

20410. The same thing would apply to any form of manual instruction which was done at desks in school, children must have room to use both their arms?—Yes, to a still greater extent than in drawing.

20411. As regards the question of speaking out in reading, a great many different classes go on in the schoolroom side by side in Ireland?—Yes, there are no class-rooms practically.

20412. And it is not convenient that what one child is reading should be heard in the next circle?—No.

20413. That may account to some extent for their not speaking out?—Yes, I think it does. I was in a school where there were 273 children, there was no class-room, they were all in the one room, and I don't see how reading could be taught properly in a school under such circumstances.

20414. Mr. Raperovien?—I believe there is no evening school in your district?—There was one, but it has disappeared.

20415. Can you give us the reasons why evening schools are not more popular in Ireland?—The programme of the evening school was the same as in the day school to a large extent, and therefore the necessity for it has passed away somewhat, but it seemed to me that the numbers gradually dwindled until they got to five or six for examination, and then the teacher gave it up in disgust.

20416. Do you think that if the programme was modified more boys would be attracted to evening schools?—I certainly think so, if it were made of a practical character.

20417. Perhaps the payment is not sufficient to induce a teacher to start an evening school?—He is generally a teacher in the day school, at least that is my experience, and the evening school was attached to the day school, and therefore he had not to rely on it entirely for his support; it only formed a part of his support.

20418. Are you acquainted with the English Evening School Code?—No, except in a very general way, but so far as I know it, I think an adaptation of it would be extremely useful; and it seems to me that there are many branches that could not be conveniently introduced in a day school, for instance laundry work and cookery, that might be admirably introduced into an evening school, because there is plenty of space there.

20419. You see no objection to girls going to an evening school?—I merely give that as an instance, but it does not touch the point, because it could apply equally well to the manual-work which boys would learn.

20420. You think that some of the extras which are now taught in the ordinary school hours might with advantage be confined to evening schools?—The extras that are generally taught in my district are algebra and geometry; I don't think they would be of a suitable character for an evening school; the boys would not be sufficiently advanced.

20421. Do any of your schools take up French?—One or two.

20422. Might not a subject of that kind, that would be of use to boys that are going in for a commercial career, be a very suitable thing for an evening school?—Boys that want instruction in that go to different schools in Belfast where the teaching would be more conventional and more useful, and given by better teachers.

20423. Could science teaching be taken up with advantage in evening schools?—Yes, I think it could.

Rev. Dr. Benson, Rector of St. Mary's, Belfast, examined.

Rev. Dr.
Benson.

20424. CHAIRMAN.—You are one of the representatives of the Church of Ireland Association of Patrons and Managers of National Schools in the United Dioceses of Down, Connor, and Dromore, and you are also, I believe, Rector of St. Mary's, Crumlin-road, Belfast?—Yes.

20425. You think that there is need for some practical education for the masses in Belfast?—I do, very strongly.

20426. What do you advocate?—I would advocate the introduction very largely of an education suitable to what are the avocations or callings of the majority of scholars attending school.

20427. What subjects do you think could be introduced advantageously?—Take my own school, which I know most about—we have a large school.

20428. How many?—About 800 children on the rolls.

20429. How many boys and how many girls?—About half and half, a few less boys.

20430. Up to what age do the girls remain?—The girls as a rule remain to fourteen, some leave before that, if they have passed the necessary standards, and the boys remain to about the same age, very few remain after that.

20431. With regard to the girls first—what do you say about teaching them cookery and housewifery?—I am strongly in favour of that, that is the very thing that brought me here.

20432. Have you attempted it?—We attempted a cookery class in the evening a few years ago, but it

was not so much for the children as for the grown-up, for example, it was very well attended, and the results were fairly good, but we have not attempted it in the school—we could not with the present programme.

20433. Did you carry on the instruction in one of the class-rooms?—It was in the evening—yes, we did; we had all the apparatus in the schoolroom.

20434. No difficulty about that?—No difficulty about that, we had a gas stove.

20435. And you could have moveable tables?—Quite easily.

20436. Did you make any attempt with regard to teaching housewifery?—No, we have not made any attempt. My feeling is that in our National schools, with the present programme, it is impossible, but it seems to me not to be common sense to insist on paper learning subjects which will be of no use to them after they leave school, to the exclusion of many others more practical and useful.

20437. You think that the programme might be modified so as to allow it?—I think so.

20438. How many lessons, when you had classes, did you give in the schools?—Twelve.

20439. Do you think that was enough?—It seemed to fairly answer the purpose.

20440. We visited a technical school in Galway the other day; there was nothing going on in the way of instruction at the moment, but the mistress in cookery was there and we asked her some questions. She stated that the course consisted of

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twenty lessons, but she thought that twenty lessons were only beginning to show them the preliminaries of cooking, and to do them any good, there should be fifty lessons!—I should say she would be a much better judge than I am, but my object is to insist on the principle that it should be introduced. About 35 or 40 per cent of the girls attending St. Mary's schools will be going into factories and mills at from eleven to fourteen years of age, and kindred places, and in the majority of cases their mothers are working in mills and factories, and they have no opportunity, as a rule, of learning at home these things; and that instead of insisting on girls like them, wasting their time, as it seems to me, in the advanced branches—advanced geography, advanced grammar, advanced arithmetic and so on—that after they can read and write and count sufficiently for practical purposes the balance of the time should be devoted to practical training in how to keep a house sanitary, how to cook, how to market, household economy, first aid in case of burns or accidents, and that sort of thing.

20441. Would you think it would be a good plan if the girls who had arrived at the age of thirteen—say they leave at fourteen—who had arrived at the last year of their school life, should be obliged to take up a course of cookery for that year?—Yes, I am strongly of that opinion, and making a change in the way of teaching; there is too much fancy work done.

20442. How many hours a week do you have for sewing in your school?—Five hours.

20443. What would be a sufficient number?—I don't object to five hours, if the sewing is broadened out and made more practically useful.

20444. You have one hour a day and you think that is sufficient?—I think that is practically sufficient.

20445. This seems to be the general opinion of those skilled in the matter. Now, we will come to the boys; I believe you think drawing should be taught to boys?—Yes, certainly.

20446. Is drawing taught in your school?—Yes, and well taught.

20447. What is the method of teaching it?—I am not sure I can exactly tell you.

20448. Does the teacher teach by drawing the figures on the blackboard?—Yes, and also by supplying the models.

20449. He does not confine himself to giving a child a copy on one page and making him copy it on the next?—He does that, but he does not confine himself to it.

20450. Have you any land and eye trouble?—No, we have not, we are hampered for want of room, we have very large schools; but still we are two teachers short for the numbers of our children, our breathing space is not sufficiently large, we have not enough accommodation or enough teachers. We are in a working class district entirely and the majority are poor people, and it is a difficult thing to raise funds. I do think that when the Government has provided compulsory education it ought to make some advance towards helping us to provide sufficient accommodation.

20451. Have you sufficient ground to build upon if you had the money?—Yes.

20452. Would you advocate the introduction of manual training in the shape of woodwork?—Within limits.

20453. Of course you understand it would be necessary to have a separate room; it could not be done in the country?—No, not at the same time as the other studies.

20454. And for other reasons?—I am strongly in favour of anything that attracts a boy's eye and hand.

20455. You would not advocate that it should be taught as a trade for the sake of making a boy a carpenter, but merely that elementary part that teaches

him to measure accurately and use his hand and eye?—Quite so.

20456. And you would not teach it without teaching drawing also, before a boy attempted to do anything with tools he should have a sketch which he copied in doing his work?—I think drawing is very important; there are a great many boys who don't seem to have much talent for it or taste.

20457. What are the difficulties you find with regard to the supply of teachers? Did you mean the teachers of manual work or teachers generally?—Teachers generally. Our numbers are much beyond our teaching staff, especially in our infant school. We want more accommodation, and the Board won't grant us more teachers without more accommodation. Then, again, I think the Board should be a little more generous with schools with regard to supplying teachers. Some little time ago I had great difficulty in getting a grant of the teacher's salary because we were the one-tenth part of a child short of the average number, and I think that is very hard lines.

20458. Rev. Dr. Wmsos.—You are teaching cookery in the evening?—We did it some time ago. We are not teaching it at present, these were voluntary lessons.

20459. Was the teacher an expert?—Yes.

20460. How did you provide the payment for her?—By charging a certain sum to each pupil.

20461. You would be in favour of entailing the advanced branches in literary education?—Yes, for the majority of children. The advanced branches are all right for children likely to be going forward to some profession. Children that require the advanced branches could very easily be selected.

20462. You consider it very important that they should be taught how to keep house?—All-important; a couple of days' visiting with me would prove that to any person.

20463. And also to make and mend clothes—especially to mend them?—Yes.

20464. You have no teaching of woodwork to the boys yet?—No.

20465. Have you applied for a grant to the Board for an extension of your premises?—We have not, because we are not in a position to pay what it would cost. Our schools are parish schools, not vested schools.

20466. Mr. STREETEN.—Were those cookery classes you had in the evening successful?—They were.

20467. Well attended?—Well attended, but they were not attended by children, but by grown-up people.

20468. Especially girls from seventeen to twenty, perhaps?—Yes; some of them married women.

20469. And you think the instruction they received there was very useful?—Highly useful.

20470. Can you give us the reasons why those classes were not continued?—There was the difficulty of organization.

20471. Was a fee charged for attending?—Yes, 1s. a head, that covered expenses.

20472. So that it would be a very simple matter to revive those classes and continue them?—Yes; if some lady would take them in charge.

20473. May I ask whether you got a grant from the National Board for these evening classes?—No.

20474. There would be a very considerable assistance in starting evening cookery classes?—It would be.

20475. And you think in that way these girls who attend receive a really valuable instruction in cookery?—I have no doubt about it.

20476. Don't you think those girls coming there for the purpose of learning cookery would be much more likely to benefit by the instruction than children of eleven or twelve, who are compelled to attend?—Yes, they would; but people who come to a voluntary class are people who have a certain taste and wish to excel, and we want to reach not only those who have a wish to excel, but those who have none.

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20477. Don't you think the taste you speak of might extend by experience?—It would be a very slow process, unless you began early.

20478. At any rate you are quite clear that there is a considerable advantage from this teaching in the evening?—No doubt about it.

20479. But, in addition to that, you would like to have cookery taught in schools to girls before they leave school?—Yes; very simple cookery. I don't want to go in for fine dishes, but something suitable to their position in life—to teach them to economise. No one can go among the working classes without seeing how much waste there is, and how much more the food they buy could be turned to advantage than it is.

20480. Would you have laundry work taught in the school?—I should be glad; the principle of it.

20481. There would be a difficulty about the time?—That is the difficulty; but I would make time by doing away with what I think is now practically useless.

20482. You remember there was an alternative scheme of needlework, which was meant to be of an industrial character and that does not seem to have succeeded?—Well, you are the teacher's friend and better is dependent upon his producing certain results in certain subjects.

20483. But there was a fee paid for certain subjects, excluding arithmetic altogether; a high fee was paid for instruction in needlework and cookery?—I cannot say exactly.

20484. It has been said to us that the reason why this scheme failed was that the people, and especially in Belfast, declined to send their children to school for anything but a literary education?—I know that there is a certain amount of feeling in that direction, but still I think that would be overcome.

20485. Suppose you reduced the amount of literary instruction to girls under eleven, suppose you exclude grammar altogether and reduce the amount of geography and arithmetic, and substitute for it cookery and laundry work, do you think the parents would be willing to send their girls?—I think if you do it in one school in all probability a number of girls would say they preferred to have the branches taught in another school, but if you do it generally that cannot hold.

20486. Then you aim at making this form of instruction compulsory in all schools?—I certainly do.

20487. Don't you think there might be a popular outcry if that were the case?—That depends on the judiciousness with which it is introduced, if it is made clear to people, and, at the same time, if you provide classes for those who wish to get on in literary instruction. In my school perhaps ten or fifteen per cent. of the girls would wish to get on for professions or clerkships; it would be easy to provide classes for them.

20488. Would you get these girls to attend a course of instruction in cookery, laundry work, and house dealing?—I think it is quite possible, in any case you could introduce the subject generally, and at the same time have special classes for them, but I would not press on the majority in the literary subjects.

20489. That really means you would not make these subjects compulsory after all?—I would make them generally compulsory. Perhaps I have not made myself clear. I would have all the girls taught these subjects, but I would have classes provided for the girls who wished to go on—special advanced classes.

20490. You would allow girls under certain circumstances to claim special exemption?—To claim exemption in certain cases.

20491. It would be very considerable assistance to your work with the adult girls if you had grants for evening classes for such subjects as cookery and laundry work?—Yes.

20492. Your school is evidently full?—It is full, and more than full according to the numbers allowed, by the rules of the National Board, in a given space.

20493. Then it is what we might call overcrowded?—Yes.

20494. That is not a desirable state of affairs?—It is not, it is not so much overcrowded as to make it unhealthy; but it is, according to the rules of the Board, overcrowded. I don't object to the rule, I only claim that the Board should help us to provide additional accommodation.

20495. Mr. KENNEDY.—Have you applied for a loan?—We have not, because we could not afford to pay five per cent.

20496. You are aware that loans and not grants are given to non-vested schools?—Yes, we thought the matter out, but could not afford to pay the five per cent.

20497. Mr. SHANNON.—You only have teachers in this school for the accommodation, and not for the number of children in it, so that in addition to the disadvantage of teaching in the overcrowded room you have the additional disadvantage of an inefficient staff?—That was so.

20498. That is a very unsatisfactory state of affairs?—It is, but I would wish to say I am six years past in the parish, and we have never had a failure in the infant school, which shows our work does not suffer in consequence.

20499. That means the teachers must work very hard?—They do work very hard.

20500. Too hard?—For their own health sometimes.

20501. Captain SHAW.—Have you considered at all the question of having centres for these forms of instruction, which might be available for different schools?—I have thought of it, but I have not considered it very particularly.

20502. Do you think it would be feasible in Belfast to have centres for these forms of instruction, to have a cookery centre to which the children from various schools should come in turns so that the centre should be continuously employed, and you should have one instructor always employed in giving instruction to the various classes?—That could be worked, but I don't think it would produce the efficient result that it would if introduced into all the schools.

20503. If you have a well fitted kitchen, and an efficient instructor at the centre, would it not produce more efficient results than if you depended on a teacher in each school?—To a certain number of children, but I don't think the mass of them could be got there.

20504. CHAIRMAN.—Why should they not be brought to that centre as in Birmingham?—Well, I have no experience, but there are local reasons why it would not work well.

20505. Captain SHAW.—To what proportion of the children would you contemplate teaching cookery?—There would be a very large number of girls.

20506. Roughly 100?—Quite that number.

20507. You would teach them in classes of twenty-five, four classes a week, that would not occupy the whole of the instructor's time, or the whole of the kitchen; you might take in another school?—Yes, at a different time.

20508. It is a question whether you have the teaching at one school or at a centre?—It is so easy now providing a gas stove in the corner of the school or class-room, that it would be very much easier doing that and having a teacher migrating, giving an hour to this school and another to the next.

20509. I meant the children should migrate, not the teacher?—It would be much easier migrating the teacher than the children.

20510. I was going to ask you the same question as regards manual instruction; it is a system commonly followed in England. I did not know whether there might be any feeling in Belfast about the children leaving their schools to go to the centres. Instead of coming to the school one morning, they start and go to a centre and spend two hours there, and then go on to the school?—I have no experience of it at all. But there are certain elements existing in Belfast which don't exist in England, and which would make it difficult, if not impossible, to migrate the children in this city.

Selwyn
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Rev Dr
Appears.

20511. Mr. MOLLER.—I think your school building was erected many years ago at a very heavy cost!—It was.

20512. An unusually heavy cost?—Yes.

20513. And that has been weighing on the parish ever since?—I am happy to say it has been wiped out now.

20514. I know it when the Rev. Dr. Wright happened to be the clergyman and it rather oppressed him?—It did, and it oppressed me too, I am sorry to say, for a time.

20515. Was it connected with any association prior to the National Board?—It was under the Church Education Society?—No, it never was.

20516. Was it always worked as a parish school, and in connection with the National Board?—Yes.

20517. Then the attendance has increased enormously?—Enormously, the district has increased enormously.

20518. They are chiefly mill-workers in the neighbourhood?—Chiefly.

20519. You carried on an evening school for some time?—We had an evening cookery school, we had not a laundry school in my time.

20520. What objection would you have to an ordinary literary evening school?—I have none at all.

20521. In view of the great number of adult workers would it not be of service to introduce such a school?—I am sure it would if it could be carried out.

20522. Do you think the restrictions at present in force under the National Board prevent the carrying out of that?—To some extent, but not wholly.

20523. That the remuneration is not adequate and the conditions are prohibitive?—Yes, but still I think there are other elements that enter into it—there are very few men who are capable of managing fellows of from seventeen to twenty-one, and that has a large

amount to do with keeping up order in the school and keeping up a moral tone. And then again there is another reason—there is only a certain percentage, and perhaps a small percentage of young men and women that are much to pursue their studies when they leave school, and those that do are amply provided for in schools like the Workmen's Institute, where they go of their own choice.

20524. With regard to their pursuits in after-life?—Yes.

20525. Would you kindly develop a little your remark about that one tenth of a pupil when you were not able to get an assistant recognized; was the refusal of the Commissioners to appoint an assistant on the ground of overcrowding?—No, the overcrowding is in the infant school. The senior school is not so overcrowded. When you have a staff of teachers it is hard that the retaining of one of the staff should depend on whether you will have the one-tenth or not.

20526. They don't deal, however, I believe with fractions; they rather go to the next whole number and give you the benefit of the fraction?—Possibly that is so now, but they do deal with fractions.

20527. Mr. REMINGTON.—Would you point out the particular regulations governing evening classes which you think have prevented the spread of these classes?—I could not put my finger on it just now, but my impression is that the teachers have not been sufficiently encouraged by a large enough payment.

20528. Are you familiar with the English way of paying for teaching in evening schools?—I am not.

20529. Mr. SMITH.—Is there not one difference between Birmingham and Belfast in the way of establishing a centre—that there is one central authority in Birmingham which has all the schools under its control and there is no central authority in Belfast?—There is no central authority in Belfast,

Rev. R. J. CLARKE, Rector of Trinity Church, Belfast, examined.

20530. CHAIRMAN.—You are the Rector of Trinity Church, Belfast, and the manager of three large National schools?—Yes, my lord.

20531. Have you tried cookery classes?—We have tried them in the evening in connection with the young people who have left school; we found them very successful and exceedingly popular. The first year we engaged a very superior Scotch lady, the lesson cost 1s. 6d. an evening, we sold 120 tickets to the young girls at 1s. each, which meant a course of twelve lessons, 12d. a lesson. Those tickets were unobtainable. The Town Council lent us a gas stove for six months free of cost. We found the class self-supporting, 120 tickets at 1s. each, both paid for the gas and for the services of the lady and other expenses, and left a few shillings margin.

20532. Is that going on still?—No, we tried it two winters, and it was not quite so popular, and we went on to an ambulance class.

20533. You are trying ambulance classes now?—We have tried them. We did not find them so popular as the cookery class, but a good many of our young girls obtained certificates.

20534. Have you any idea of going back to the cookery classes?—Yes, we have; I think we could only introduce it into our schools after school hours, from 4 to 5 o'clock—a good many of the girls would come back.

20535. Would you require to get the services of a special instructor, or do you think one of your teachers would qualify?—I am afraid none of our teachers could qualify, but if certificates were given in cookery, some of our assistants would attend cookery classes and qualify, I feel certain.

20536. Supposing you were to substitute another class in the school, could you obtain results free from the National Board, if you had an outside teacher?—I am not quite sure, I think we could. We obtained

results free in singing once when we employed an outside teacher.

20537. Have you tried gymnastic classes and evening drill?—We have, and also we have drill classes on Saturday for the day school pupils, which is very popular, teaching children to be alert and habits of instant obedience.

20538. Have you found that that has tended to improve the demeanour of the children and their orderliness?—Yes, I think it tends to make them more respectful and to see the beauty of orderliness.

20539. Do you think that children should be taught to use all their parts both mental, moral, and physical?—I think that should be the aim of our system of education.

20540. What do you say about reading?—I find the children read very well, and I can hear them reading distinctly in our Sunday school; I superintend a large Sunday school, and I have often to say at the beginning, "I wish to remind every boy only so read so that he can be heard in his own class." He reads sometimes so that he can be heard over the whole room.

20541. Rev. Dr. WILSON.—What would be the size of your schools?—Eight hundred children on the rolls of the three schools.

20542. Did your evening cookery class embrace pupils from the three?—More senior pupils and girls of the district generally.

20543. I am not surprised to hear from you that the second winter was not so popular; we have found it the same elsewhere, I suppose they were getting wearied of it?—We found it so.

20544. The question is—would they not get wearied of it in the school?—If it was for their good we would compel them to continue it, if the teacher got good results, the manager and teacher combining could induce children to attend.

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Clarke.

29545. Mr. STEVENSON.—You could induce them, but not actually compel them!—Where the manager and teacher are in touch with the parents, the parents will do anything reasonable that is put before them.

29546. Did you get any support from the National Board for your evening class?—None, whatever; we thought we could not comply with the rules and restrictions.

29547. Do you know what special rule it was that prevented you making the application?—I don't recollect. We wished the class to include anyone in the district who wished to come—methods of tuition occasionally came.

29548. And is there some restriction in the rules of the National Board which prevented that?—I don't quite recollect.

Mr. S. BARKER, Head Master, Carrickfergus Model School, continued.

Mr. S.
Barker.

29549. CHAIRMAN.—You are the Head Master of the Model School at Carrickfergus?—Yes, my lord.

29550. I believe that you have had a class of practical cookery in connection with that school?—Yes, my lord.

29551. Who was it taught by?—By an extern teacher during the first season; it is now taught by the head mistress of the girls' school.

29552. How many girls and boys successfully passed the last examination?—Sixty girls and one boy.

29553. Did that boy pass successfully and with honours marks in some other subjects?—Yes, in every subject in the examination except geography.

29554. What is your experience with regard to kindergarten?—That its effects are felt up to the senior classes; we have a kindergarten department, and the children are taught the usual exercises there; the effect of the kindergarten teaching is very pronounced when we come to first fifth class, more especially when we come to second fifth class, when we introduce the children to geometry. Any teacher could distinguish the kindergarten pupil from the ordinary pupil. I have brought a paper with me to show you an exercise in paper-folding belonging to the kindergarten, that will illustrate it. It is intended to draw your attention to the exercise to see the effect of it on Euclid. Here (produces) is a paper square. The children in the junior classes—the average age would be six—are taught to place the square of paper so that the edge coincides with a straight line. The teacher asks the pupil to fold the lower corners over the upper corner, and the child folds the paper so. The paper is opened and the teacher asks, "What have you now?" And the child is taught to say "Two triangles." Now open the paper, fold the left hand corners over the right hand corners; the paper must not be moved out of position, and the child is taught to fold the paper this way. Then the paper is opened. "What have you now?" and the child answers "Four squares." The child is there taught to see tangible mathematical facts. When I introduce the child to the second book of Euclid I generally ask him to go to the infant school for a square and fold the paper." "What have you now?" "Four squares." And hence the child learns that the square on the line is equal to four times the square on half the line.

29555. Do you think drawing should be made compulsory?—Yes. In No. 2 Model School, Dublin, I had lost per cent. of pupils. In the Carrickfergus Model School we had three failures out of 111 children presented.

29556. You have given a good deal of attention to the study of experimental science; will you give us your views on that as applied to teaching in elementary schools?—I think the teacher should place before him this great object in all his education, to make the child inventive. If you teach a child to take two substances and join them together and produce a new substance, that is the nearest approach to a creative act. That is my aim in all my teaching to make the child inventive. Next you must make him an experimenter, and then it is more likely you will teach him with the beauty of the subject. And until the teacher brings the subject home, and the child sees its beauty, it is questionable whether he will ever succeed in that subject. In teaching children I make the experiments a condition; if they do so much work as

a week I will devote half an hour on Friday to experimental work. Take a long tube for measuring gas, or better take an ordinary long-necked bottle. I prefer to take an apparatus that a child has ready at hand. Invert the bottle and introduce the neck into water, the water does not rise in the bottle. Ask the child why, it is not likely that he can answer. Introduce a piece of indiarubber tubing into the bottle, draw out some of the air and the water will rise in the bottle. That is water running up a hill; that is contrary to their experience. A boy will run down a hill, but not run up a hill unless you push it. Therefore there is something pushing the water up in the bottle; the child will at once understand that there is something pushing it up, and is ready to the fact that the atmosphere has weight. Then we have a model of a pump, a sectional model, and the children are very much interested examining the valves. When the principle is studied we have a glass pump—a real pump that will raise water two feet, and the children are delighted with it. I like to introduce experiments that the child can remember and perform at home, and when I show the child how to make the experiment, using the most approved apparatus I can get, then my object is to invent an apparatus for the child that he can put his head on, because very often the child will examine the apparatus instead of what is going on; when I take away the apparatus and give him the ordinary utensils as students more importance to what is going on. For instance, I might dry a precipitate in a water bath, and the boy will look on. Ask him to filter a precipitate from water, take away the waterbath, and be in at sea how to dry it. Then the question that I very often ask is—"What apparatus can you devise for that?" One boy by himself got a jampan, dried it, and placed it in boiling water in a saucepan, the water in the saucepan not reaching up, and in that way dried it.

29557. How many pupils have you at present taking part in your lessons on experimental work in chemistry?—Eighty.

29558. They are, of course, in the two upper classes—Yes, the senior classes.

29559. Have you given any attention to the teaching of agriculture in a scientific way?—Yes, my lord, during the past four years in connection with the Carrickfergus Model School, and two years in connection with the Derry Model School.

29560. Do you think that agriculture is intelligently taught at present in schools as a rule?—Before I can answer that question I should like to give you my view that agriculture is both a science and an art. As a science it is a very imperfect science at present. I suppose I could now say bring two books together that agree in all little points regarding the science of agriculture. One book will state that a plant takes carbonic acid and gas during the day and gives out oxygen. Another book states that it is wrong that the respiration of the plant is essentially an oxidation of the plant. One book will state that a certain class of plants can take in nitrogen, by means of micro organisms in the roots. And another book says that is wrong. Then, again, with reference to the potato, the practice is not always uniformly intelligent, and it is influenced by a great many accidental circumstances, and routine has a good deal to do with it. And I contend when I approach this

subject of agriculture that the farmer is out and beyond everyone the best expert in reference to the practice, and I could in no way, under no system of training, hope to equal him in practice. For instance, a farmer is order to be a successful farmer, must be a good business man. When you tell him certain characteristics of a cow, of course you say a cow must have good shape and symmetry, deep and level udders, but he has no absolute standard to compare it with, it is only relative, he must have the experience of the farmer. The teacher is forbidden by one of his rules to attend a fair. Then, again, there are many pig-breeding schools—junior pupils—who could describe every point of a cow likely to have a satisfactory supply of milk, and perhaps they would not once refer to the text-book I was experimenting with the boys, because I come from a farming district.

20561. Have you a practical knowledge acquired independently?—Yes, my lord, and I thought I was taught far too much practice prior to going to school and afterwards on returning from school. There is no doubt that a child who comes from a farming district gets a good practical knowledge and a good expert knowledge. For instance, I asked a farmer's son how he would know a cow likely to give a good return of milk. He said he would examine the ear of the cow, and if the ear had a yellow colour it was a very good sign, if the dandruff of the ear was yellow it was a good sign, and also if the cow had the slightest stain of a shorthorn. He would not have a cow that had any black on the nose. Then he referred to the distinguishing marks of the head, and at last he summed up by saying that there are external indications in the cow that an expert could recognise as readily as a man well versed in horses could point out a horse that would be well suited for speed or for drawing. So I contented that in that direction I dare not approach a farmer to teach him the practice of it. But in the matter of science he is very defective, and I think that the mission of the teacher or the text-book should be to bring the two classes of workers together, bringing the scientific and the practical cultivators together, so as to ensure their mutual co-operation, and in that way both parties benefit. I look on the benefit of scientific training to a farmer as lying in the power it will confer on him of educating himself to altered conditions, or availing himself of new resources, and, therefore, I think that the sphere of the teacher should be directed more to reconciling and bringing the two into closer contact, and I believe that agriculture is well-taught as far as the teachers are concerned.

20562. You have had a good deal of experience in model schools in different counties, will you tell us what schools you have been connected with in the course of your career?—Derry Model School, No. 2 Central Model School, and Carrickfergus Model School.

20563. You were at Omagh?—Yes.

20564. A pupil and pupil teacher?—Yes.

20565. Were the subjects of mechanics, magnetism, electricity, and agricultural chemistry taught in all those schools?—No, they were taught in Omagh.

20566. Who was the head master there?—Mr. Ferguson.

20567. Mr. STRUTT—Do you find that these experimental science lessons of yours awaken the curiosity of the children and make them of a more inquiring turn of mind?—Yes, more inventive and shrewder.

20568. And so they presumably make greater progress in the other subjects? have you found that in the case?—Well, yes.

20569. At any rate you can say this, that these children who have given a certain amount of time to the science instruction are not behind the others in the literary subjects?—No.

20570. You don't suppose that anybody could give practical instruction in farming who had not a thorough knowledge of the subject himself?—No, I don't think he could.

20571. In order to be a really practical instructor in farming he would require to be a practical farmer?—Yes.

20572. Which means years of constant study?—Yes.

20573. A sort of study which could only, in exceptional cases, be combined with that of preparing a man to be a teacher; he could not be both a practical farmer and a teacher?—I don't think he could make a teacher and a practical farmer—he might make an approach to a teacher.

20574. Do you get fees from the National Board for this science teaching?—Not from the National Board, but from the Science and Art Department.

20575. But not under the scheme of the National Board?—Not under the National Board.

20576. Captain SHAW—Have you considered the syllabus of the National Board for science?—Yes.

20577. Do you think you could teach that advantageously to your students?—I believe I could teach the inorganic chemistry programme. These are other programmes that I should like to modify.

20578. Would you like to commence teaching science from the youngest class?—Not for an examination.

20579. But as a mental training?—Yes, as a mental training, preparatory to the senior division.

20580. You think it ought to be taught right through the school?—I think it should; we have delivery of touch training and observation.

20581. If you were allowed to teach experimental science throughout your school as you like, do you think you could devise a satisfactory course?—I would not like to introduce more experimental work than I have at present. I believe I have a satisfactory course of experimental work for the junior children.

20582. You gave us your idea of it just now. You feel it incumbent that science should be taught by experiment?—Yes.

20583. There is no use relying on a text-book if one tells you one thing and another another?—No, but I referred to inaccuracies in the text-book to show that the science of agricultural chemistry is far from being perfect at present.

20584. But the particular instances which you have given have been experimented on, and I think one of the books might be pronounced to be wrong. But that shows the necessity of experiments instead of relying on text-books?—It scarcely goes that far. I referred to that to show that the science of agricultural chemistry is far from being perfect, the scientific part is the part the teacher should be well versed in before he comes to talk to the practical farmer, or to ask a practical farmer to change his mode of doing a thing, and try another experiment. If he will ask me to explain how it is that one field of wheat is hard, and another tender, I cannot do it. That naturally discounts my teaching, and it is not likely that he will be ready to drop his own course, a course whereby he can make money, and make himself comfortable when he can point out that I do not know my science.

20585. But still science helps to a certain extent in the agriculture?—Oh, yes, I should say that to a farmer who was instructed in science, no part of the plant's life is uninteresting.

20586. And you think that is a proper introduction to agriculture in schools, the science which underlies it?—Yes, I should say a course of elementary agricultural chemistry is a necessary introduction, and it is a part of agriculture that we should be asked to take up to school. The practical part is really a part where we have to deal with experts.

20587. Do the children perform experiments for themselves in your course?—They perform experiments at home.

20588. But not actually in the school?—No, the experiment is invariably repeated at home, provided it is of such a nature that the child can have the necessary apparatus at home.

20589. Would you prefer the children should do

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some experimental work for themselves?—Yes, because naturally, until the child performs experiments for himself, he has not that interest which ensures his close attention.

20590. Do you think you could carry out a satisfactory series of experiments by the students in the ordinary class-room?—I believe I could.

20591. Mr. MILLER.—How long are you head master of the Carrickfergus school?—Since January, 1884.

20592. Were you the first to introduce such a subject as experimental science there?—No.

20593. I believe a predecessor of yours, Mr. Stevenson, had it for some time?—Yes.

20594. Who supplied the apparatus?—I cannot say, but it is a free stock to the school at present.

20595. Do you consider that you have suitable and sufficient apparatus?—I consider so.

20596. There are really three departments in the Carrickfergus Model School, infants', girls', and boys' school, and by your memorandum it is stated the kindergarten is carried out in the infant school, and successfully?—Yes.

20597. Is the girls' school they take up cookery, and you state that the result of the examination in cookery was that sixty girls passed, out of what total number?—I think sixty presented, and sixty passed; there were no failures.

20598. And the successes in cookery included even one boy?—Yes, that boy made three applications to me, and he looked up the third application by saying that on one occasion he helped to prepare a dinner for the Prince of Wales. He is the son of an hotel proprietor in Larne, he said the hotel would eventually come to him, and he wanted to study cookery.

20599. Is drawing taught to such in any department in that school?—It is to a certain extent, in connection with the first and second years' geometry.

20600. What is the lowest standard or class in which drawing is taken up?—In all classes in my school, but the third class is the first class in which I can present it for results fees.

20601. I find there is a total number of 360 pupils on the rolls of the three schools, and in yours, 166 on the rolls, and of the 166, so many as eighty are learning elementary science?—Yes.

20602. Would you briefly state whether the parents approve or disapprove of that?—When a teacher is popular, and has gained the confidence of the parents, it is sufficient for that teacher to say this is a proper thing to study. The only difficulty will arise in connection with a new subject, in introducing a new subject we generally meet with three or four who cannot see eye to eye with the teacher at the time. For instance, when I proposed the introduction of education, and suggested we should employ Professor Millen, of Belfast, one parent objected. Since then he has come round to see the advantage of it, and his children are now attending.

20603. Did you find that the reading improved?—Yes; the Inspector, at the last results examination, stated that, owing to the course in education, the reading was distinct and accurate.

20604. CHAIRMAN.—Who teaches education in your school?—I employ Professor Millen.

20605. Mr. MILLER.—I observe, by the time-table, that you commence school at nine in the morning, and terminate at three o'clock, and in consequence of having so many extra subjects, you find it necessary to take up special classes on Saturday?—Yes.

20606. Virtually, the whole of Saturday appears to be devoted from nine until three. Do you find that the pupils attend willingly for these long hours, and also on the special day, Saturday. A former witness

said that Saturday was virtually lost in the schools?—Not in the Model schools, we must teach up to 11 o'clock; I had 114 boys present out of a total of 166.

20607. You don't find that the teaching staff or the pupils suffer from attending on Saturdays, and these long hours?—The average percentage in my school for September is eighty-five, which I should say would give an indication of the health of the children.

20608. Captain SNOW.—Do they do any home lessons as well?—Yes, and exercises.

20609. Mr. MILLER.—I find that they devote from half-past nine to ten to home lessons, and I observe in addition to chemistry, geometry, measurement, algebra, book-keeping, that Latin and French are taught. Is French taught to the girls?—Boys and girls may come together, but it is not taken up extensively.

20610. Who is the special teacher of that class?—An extern teacher on Tuesday from nine to ten, and on Saturday nine to ten, Latin.

20611. They have in the girls' department instrumental music, twenty-seven girls are learning on what instrument?—The piano.

20612. How many boys are learning Latin?—I believe eighteen.

20613. Are those taught also by an extern?—Yes, I could not devote my time to eighteen. I should state that the pupils are generally pupils who come from Intermediate schools to the Model school, and the parents are anxious to carry on the Latin and French.

20614. Mr. REMSBOURNE.—Could you tell me why the science programmes are not taken up to a larger extent in the National Schools?—The science programmes in connection with the National Board?

20615. The subjects of magnetism, electricity, and chemistry?—Where it was possible to teach those subjects, up to last year a teacher could take the class on in connection with the Science and Art Department, London. Our Board pays a results fee of 5s. per pupil, whereas the Science and Art Department pays the teacher 2s. if the pupils' answering obtains 60 per cent. Then again the Science and Art Department gave until 1886 certificates; and they also gave Queen's prizes. The Queen's prize was really a handsome prize and greatly coveted, and the children worked very hard. A certificate from the Science and Art Department is very often a passport to employment in Belfast. Looking over my roll of candidates who succeeded at the last examination I find they have all succeeded in getting desirable appointments in Belfast.

20616. Captain SNOW.—What is the nature of the home lessons?—I look upon that as the sphere of the parent, and if I mark out a course that a child should study it is to save the parent trouble, and I examine the lessons again on the understanding that I am doing work for the parent, but I hold it to be the parent's function to see the child prepared at home. In the Carrickfergus Model school home lessons are very strictly looked after, it is a school that for thirty-four years has held a good name, and the late headmaster, Mr. Stevenson, stated to me that many of the leading business and professional men in Belfast were trained at the Carrickfergus Model school.

20617. Do you prefer that children should learn things by heart, or have problems that they should work at home as a home lesson?—Perhaps the second fifth might be required to work five sums in arithmetic, and prepare a certain number of pages in geography, and do a little parsing.

20618. Mr. STURTEVANT.—What do you mean by "preparing," learning it off the book?—Yes, to be able to name the counties in Ulster, for instance.

Londonderry.

Oct. 16, 1897.

FORTY-FIFTH PUBLIC SITTING.—SATURDAY, OCTOBER 16TH, 1897.

AT 10.30 O'CLOCK, A.M.,

At the City Hotel, Londonderry.

Present:—THE RIGHT HON. THE EARL OF BELMORE, G.C.M.G., in the Chair; THE RIGHT HON. C. T. REDINGTON, M.A.; REV. HENRY EVANS, D.D., REV. HAMILTON WILSON, D.D., W. R. J. MOLLOY, Esq., CAPTAIN T. B. SHAW, and J. SMITHERS, Esq., B.A.;

with J. D. DALY, Esq., M.A., Secretary.

Mr. W. J. BROWSE, M.A., District Inspector of National Schools, examined.

Mr. W. J. BROWSE, M.A.

20619 CHAIRMAN.—You are a District Inspector of National Schools in the Londonderry district?—I am, my lord.

20620. How many schools are there in your district?—One hundred and sixty.

20621. How far do they extend from Derry?—The furthest on the mainland is thirty-six miles north, Malin Head in Inishowen, and I have one school eight or ten miles beyond in Inishakill, the most westerly point of Irish ground.

20622. I see that you are prepared to speak about kindergarten; will you give the Commission your views about its uses and shortcomings?—Well, my lord, I think kindergarten is of great service in training the pupils in colour and form, and in the properties of things they handle, and also in manifesting the various matters put into their hands, and I consider the drill connected with it of exceedingly great use in strengthening the muscles and developing the bony structure, and also in promoting the health of the pupils.

20623. As to its shortcomings?—Well, I think its principal shortcoming is that it is not continued from the infants on to the other classes.

20624. There is a break before there is any form of manual work undertaken?—Exactly.

20625. How long is the break?—The pupil passes through first and second class, and often for two years there is no continuance of the kindergarten work, even in drawing. I think that is a great mistake, because the kindergarten leads to nothing so it is at present. Then I find, so far as my experience goes, the understanding is not equally cultivated with the senses in kindergarten; however, that is a matter of detail, a matter that might be remedied in the course of teaching.

20626. What do you think about the extent and the defects of the present instruction in drawing?—In all the schools that I have examined, we have nothing but freehand drawing, and that is simply copying from copies on the flat. I think that is only the beginning of drawing. Freehand drawing of an object gives a general outline of it and that requires to be corrected by measurement.

20627. When you say that is the only sort of drawing, are there no exceptions?—I am aware of none, we have no drawing to scale and no model drawing.

20628. Have you no drawing in which instruction is given otherwise than by copies, we saw some instruction yesterday in the First Derry School, given on a blackboard?—That is one of the exceptions perhaps.

20629. Are there any other boards that?—I am not aware of any and I could not have said from my own knowledge that that was done there, because I have very little opportunity of seeing the teaching of drawing; however, I must say with regard to that school that the drawing is exceptionally good, every pupil examined there last year passed and passed well.

20630. What do you find to be the extent at present of the intelligence of pupils?—I don't think it is so well developed as it ought to be, I think there is a great deal too much rote work, and a great deal too little explanation, and, perhaps I should go further than explanation—I think a more valuable thing than explanation still is getting the pupil to find out the meaning of a thing for himself. For instance there is very little consulting of the dictionary. I go strongly for the use of the dictionary, and I find in most schools, I have to introduce it myself, and even when it is introduced the pupils cannot find out the words they are looking for.

20631. Rev. Dr. Evans.—Is Sullivan's copy employed?—That is in the school, but I don't recommend any, I am content with any dictionary.

20632. CHAIRMAN.—How do you think the intelligence can be helped or hindered by manual instruction?—I would like to make a preliminary observation. I think a great deal of the want of intelligence displayed in our schools is not attributable to the teachers and not attributable to the system of results examination, but a good deal to the character of the reading books hitherto used, they have been very difficult and hard to explain, the consequence is the teachers have largely given up explanation. The new books will perhaps meet that, because they will be much more interesting to the pupils—all the sets I have seen. Then manual training I look upon as supplementary to the mental training and as giving an outlet for the at present wasted energies of the pupils, they have got something to do with their hands that will occupy their physical part without any great strain on their minds, they will, therefore, be able to give greater attention to other subjects, and the testimony of all who have had experience is that that really is the result.

20633. What do you say with regard to the necessity for elementary science teaching, both as regards intellectual and physical training?—I think that as regards intellectual training science to my mind means systematized knowledge as distinguished from information, and it calls into play the mental powers of the child in solving problems and overcoming difficulties.

20634. I see you include in your memorandum under the head of sciences, botany, mathematics, drawing, weighing, measuring, mechanics, physics and elementary geometry?—I think all these ought to be taught more or less.

20635. Is elementary chemistry taught in the schools in your district?—I have never examined in chemistry, I don't think it is taught to any extent. I think all these subjects should be taught by an extension of object lessons, which we have at present in the infant classes.

20636. These subjects were formerly taught in reading books?—They were.

20637. And when did they cease to teach them?—About thirty years ago. A great many of these subjects were in the fourth and fifth books of the old system, we had vegetable physiology, zoology, classification

Londonberry. of animals, descriptive geography and a course of geology, which would be rather out of date now, though it was very good at the time it was written, then we had a course of history in the Fifth Book.

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20636 **Rev Dr Evans.**—You refer to the very old Fifth Book?—The Fifth Book that became disused about 1866.

20639 **CHAIRMAN.**—With regard to manual training, will you first tell us what you include under the head of manual training?—I have no experience in the matter, I have never examined a school where manual training has been carried on.

20640. We have very often in our examination confined the expression to woodwork and modelling work, there being very little of modelling work anywhere; but there are other subjects which in some of our examinations we found witnesses included in manual training; what do you consider to be such?—The simplest term of manual training is drawing, which we have already disposed of.

20641. Drawing is the preliminary to woodwork; if properly taught, I mean. Woodwork without drawing appears to be badly done and practically useless?—I think the drawing to plan should commence first.

20642. Scale drawing?—Oh, yes.

20643. Suppose that woodwork were to be introduced first of all, how do you think time and means could be provided?—I think about the time there is very little difficulty; the woodwork would be intended only for boys.

20644. And only for a couple of hours a week?—At present girls spend an hour less at ordinary subjects than boys, yet girls almost invariably answer better than boys on the same subject. There may be various causes assigned for that, perhaps girls are more attentive to their work, but I think the accuracy they have derived through sewing and needlework gives them a superior feeling of exactness, and makes them more accurate in all their subsequent work; the time spent by the girls at needlework could easily be given by the boys.

20645. There are two ways of shortening the time devoted to literary subjects, which have been suggested to us—in fact the only woodwork that you may call in satisfactory opinion, that we witnessed, was at Linsome, in the Christian Brothers' School; and there, instead of omitting any subject (as I understood), the other lessons were shortened, and they gained two hours a week, by taking ten minutes of a number of subjects?—I should not approve of that plan; without this limitation I say the time devoted by the girls to needlework could easily be given by the boys.

20646. What do the girls give up which boys do?—It varies in different schools. I think that time might be devoted by the boys to manual training, or science, or whatever else is required. I hold that the worst pupils could also remain in the evening after the others have gone away. In fact it would be a relief to the teacher to get the work done after the others had gone away, and that would obviate the necessity of having a separate room. Again, I think two hours each Saturday could be devoted to science teaching and manual training.

20647. Do you think the boys would come after hours?—I think they will if you can get them interested in their work.

20648. Would you make it compulsory or not?—I don't think it should be made compulsory at first.

20649. Would you confine it to town schools, at any rate, at first?—I think so, I think at first it should be introduced in the town schools, and from there, as centres, it might spread to the country schools, if found desirable. Might I interpose one remark—I think whatever scheme of manual work is introduced, if compulsory attendance is enforced, that is, in the country, it would make the teachers more ready to accept it.

20650. Compulsory attendance always?—Yes, in country places.

20651. And of course you think that in some way or other, whether by compulsion or some other way, the teaching of the subject should be well paid for?—Decidedly, you cannot expect the sympathy of the teachers unless you affect their pockets.

20652. Coming to domestic economy for girls, what do you say about that?—I think domestic economy is equally important with sewing and needlework, in fact, some so, many of the girls trained at our schools afterwards become domestic servants, and in that service their sewing is of no practical value to them as servants, but a knowledge of domestic economy would be exceedingly valuable.

20653. Is that so, that sewing is no value to them as servants?—I think not, sometimes, very often it is of very little importance except to themselves individually, whereas a knowledge of domestic economy would be of exceedingly great use to them, and some for them better positions and higher remunerations.

20654. Do you think time could be found for teaching such subjects as cookery and domestic economy by taking two hours of the time now given to needle work, and having three hours, as in England, instead of two?—I am decidedly of that opinion; I think we spend too much time at needlework, and there is a great difficulty in getting materials and getting the children to keep up their attention.

20655. Mr. RIMINGTON.—I see that on the whole you are not in favour of the abolition of individual examination for results?—I am not, sir.

20656. What are your objections to class examinations?—Well, my objection is that a class examination will be either a superficial examination or it will be an individual examination, with a general estimate formed in the mind of the examiner.

20657. If, say, a third of the pupils taken at random answered very well, could you not fairly argue that the class as a whole was well taught?—Yes, but I think the examination is valuable, not merely for ascertaining the teaching of the school, but for satisfying the parents and pupils; the pupils have a great interest in the examination, the parents have a great interest in the examination, and the managers, all these are interested in having the actual proficiency of each individual ascertained.

20658. But the main object of the results examination is to ascertain whether the teacher is doing his duty, and could not that be ascertained without examining each individual in the class?—Yes, I dare say, but in many of our schools the classes are very small, and we would require to have an individual examination in these.

20659. Take a large town like Londonberry?—Yes, the classes are very large here, and it certainly would be a great ease to the Inspector to examine schools that way.

20660. **CHAIRMAN.**—Would it not give him more time for inspection?—It certainly would.

20661. Mr. RIMINGTON.—You admit in your Report for 1885, that cramming is rather encouraged by the system of examination pursued?—I am not sure I have admitted that; perhaps I have.

20662. "What is known as cramming is intimately connected with this practice; the facts of the subject are memorised and repeated without being understood; the Inspector's questions are taken down and used in teaching, so as to secure ready answers at the next examination; poets are committed to memory without an idea of their meaning, and are often forgotten. The specified portion of the programme in geography, agriculture or other subjects is got up for the occasion, while the portions already got up are ignored."—There are some admissions in that, no doubt, but it is addressed to those practices which are really an evasion of the results system, or an attempt on the part of the teachers at meeting the examination, which does not succeed usually.

20663. Perhaps you would say that in some cases it does lead to cramming?—Yes.

20564. Do you think that agriculture ought to be taught to girls?—I do not, decidedly.

20565. Do you think that it ought to be taught in day schools?—I think not.

20566. Are you satisfied with the teaching of it here a text book?—I am not.

20567. What modification would you suggest?—I do not think any modification would be rather desirable; I would abolish it altogether. I would substitute some lessons in the reading books, as from my reports you will see I have suggested time after time—a number of simple, well-illustrated, easily worked lessons, pointing to the different processes of farming, and the seasons of plant life, and that would have the effect of bringing the subject before the minds of all the pupils—boys and girls.

20568. But it will be teaching agriculture from a book?—To a certain extent, but it would not be a poor subject, it would come in with their general knowledge of the text-book, which is now, I am glad to say, compulsory.

20569. Do you think it would be well to have practical experiments in elementary science as an introduction to agricultural study?—I do: I decidedly think the two should be connected together.

20570. And the pupils should be shown the things they read of, as far as it can be done?—Certainly. As a substitute for that, I got introduced, wherever I was, pictures of the plants. I often hear pupils talking about sunflowers, who have never seen a sunflower. I advise the teacher to write to some of the big printers and get an illustrated catalogue.

20571. What is your idea about elementary science?—I would introduce it through object lessons in the junior classes.

20572. Could elementary chemistry, suitable for question, be taught in the fifth class?—In the senior fifth.

20573. Why are the science programmes not more largely taken up in our schools?—I really cannot tell, I have spoken to several teachers who formerly taught science, and they have not explained the matter sufficiently to me.

20574. Do you think they are too difficult?—Well, I think, perhaps, they are.

20575. You would not teach science before the fifth class?—Not science as science, but I would lead up to it.

20576. And would not that apply to mechanics as well as chemistry?—Yes, a few of the simpler ideas of mechanics; the effect of two forces acting on a body, for instance.

20577. Do you think that there should be some encouragement given to the teachers to maintain discipline and order in their schools, by awarding prizes to them?—Yes, I think a merit grant, or something of that sort, might very well be given; a small amount would be a great encouragement.

20578. Do you think that at present the teachers neglect their work in the early part of the year and put on extra pressure towards the time of the examinations?—I would not say that of teachers generally, but I have known instances where I am quite sure that was done.

20579. Would you go so far as to say that the effect of having an annual examination in the school would be, that in many cases, in the early months of the year, the ordinary teaching would be rather slack?—I think in some cases, but in the majority of cases the teachers are fairly conscientious, and attend to their work all through.

20580. If it were a question of maintaining the present system, by which, it is admitted, an insufficient number of incidental visits are paid, or adopting a system of less examination and more incidental visits, which would you select?—I am afraid that puts me in a dilemma. Perhaps the system that would afford more opportunities of seeing the working of the school, I think I should approve of that.

20581. Mr. Mayor—Have you had experience of

the working of inspection prior to the introduction of the result system?—Not as inspector.

20582. But you were acquainted with the mode of examination?—Yes.

20583. Would you briefly contrast that mode of inspection with the inspection that prevails at present, I mean as regards its effect on the school?—The present examination passes over nothing, passes over no pupil and no subject. The former examination seemed to me to be, of course, varying with the individual inspector, but in many cases very shapely.

20584. How many inspectors had you experience of as regards dilapidated examinations?—Five or six.

20585. You say that at present inspector's questions become known, and that is one of the disadvantages of the result system?—Yes.

20586. Is not that the fault of the inspector—why does he not alter his questions and increase the number, and prevent the possibility of teachers becoming too familiar with the stock questions?—That is what every inspector does, but the teachers go on the system that what questions were asked in one school will be asked in others. However, I must say, that in one or two cases I purposely ask the same questions in every school, and I am sorry to say that the teachers have not yet discovered these questions and had their pupils ready to answer them, so perhaps the former statement is rather too broad, that the inspector's questions become known.

20587. You mentioned that you would abolish agriculture altogether, both in town and rural schools?—Well, perhaps that is rather too sweeping; I would abolish it as a separate subject, and have substituted for it those lessons I spoke of in the ordinary reading books.

20588. Practically, what is the difference between the use of text-books on agriculture and the introduction of agricultural lessons in the reading book?—The special text-book is too minute, too full of details.

20589. That is the present edition?—I have not studied the present edition, but I know that is the defect of most of the books.

20590. Assuming there is a specially suitable book on agriculture, would you not think it better to use that rather than desultory lessons, read over number of reading books?—I would not, the lessons would bring it before the minds of all the pupils, and thus raise the number of subjects; however, I should add, that in the senior classes, the highest classes, I would make agriculture a separate subject, and have it practically and scientifically studied.

20591. Then you modify your original statement largely?—I do.

20592. If those desultory lessons on agriculture were in the reading books in use in Derry what interest do you think girls would take in the subject here?—I think the girls would take just the same interest as the boys.

20593. City girls?—I think so; they would know something about the cultivation of fields, the kind of crops that grow there, they would see the illustrations—I go strongly for the illustrations to be put before their minds the kind of plants and crops.

20594. But the reading books you contemplate would contain elementary sciences?—They would.

20595. Quite a number of subjects—including history of the country, and coast scenery?—Yes.

20596. Some reference to antiquities, and so on?—Exactly. My idea of a text-book would be to lead the child up to the knowledge that every moderately educated person is supposed to have by the reading books, except, of course, in mathematical subjects.

20597. You offer an objection to the present reading books, but of course, you are aware, that managers may use suitable books if they contain no objectionable matter—are there any instances of that kind throughout your district?—There are; in several schools new books have been adopted, they are in use in the Model school, and I dare say in First Derry.

20598. Who is the manager of the Model school?

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—Wall, Mr. Eardley, for the Commissioners, I have no official connection with it.

20709. In your opening statement you mentioned that kindergarten, in your opinion, did not cultivate the understanding of the children?—Equally with the sciences.

20710. In what way?—I am a pupil laying tablets, for instance: "How many tablets are there?" He counts nine. "How many white ones?" "Five." "How many red ones?" "Four." I cover them with my hands. "How many would four and five make?" I generally don't get an answer. I think concurrently with putting the tablets together, there should be a training in number.

20701. You are in favour of extending object lessons?—Very much.

20702. But under the present system there is no difficulty in giving object lessons if the teachers are qualified, and the inspector looks after the subject?—That is true, and they are sometimes given, that is in the infant classes, but I want them extended to other classes. Most of the object lessons I hear given are lessons on pictures—not real objects. I want the real object put before the pupils.

20703. CHAIRMAN.—Sometimes they bring in flowers and make the children describe the colour?—Yes, I have heard one instance of it.

20704. Mr. MOLLAY.—We had that exemplified capitally yesterday in the first school we visited.—Rev. Mr. Cogan's, there is nothing to represent the extension of that, according to the capability of the teacher, to the present system if the inspector would encourage it?—There is this to prevent it, if the teachers are not paid for it they won't do it.

20705. Is it your theory that the teachers will not teach anything suitable for the children unless they are paid specially?—I am afraid that is the case. Sometimes when they say they are not paid for that, I say "You have the fixed salary," and that seems a new idea to many of them.

20706. I believe the results have come to something like £253,000 in the year, and in addition to that there is a fixed salary according to the classification of the teachers?—Yes.

20707. And years ago, when no results form were in existence, the third salary covered the remuneration for the entire conduct of the school?—That is so.

20708. Have you from your experience as an inspector ever thought of the working out of the graded system in schools. I mean in this way, that a third class teacher, if highly efficient, would get a first class diploma and higher remuneration for efficiency?—I have not thought of it in that way. I have always connected the higher efficiency with the higher classification; the two ought to go together, they don't always do so, but practically I think they do, as a rule.

20709. Is that by the introduction of higher subjects in the curriculum?—By a general efficiency, the more efficient men are those who look for promotion and get it, and they continue their efficiency.

20710. With regard to manual instruction, you mentioned you thought there ought to be a time devoted to that corresponding to needlework for girls; you would not think of giving five hours a week to manual instruction for boys?—Certainly not. I only say that from the time the girls take for needlework there could be taken time for manual instruction.

20711. But the girls, as a matter of fact, give five hours a week; you don't advocate at all that for manual instruction?—No.

20712. Perhaps two hours a week—one hour on Saturday along with an hour on another day, and outside school hours, and optional with the teachers to carry it on?—Yes.

20713. And you are in favour of its being optional as regards city schools?—Yes, I think it should not be compulsory at first in any case.

20714. CHAIRMAN.—You are aware that Sweden is the place where this woodwork, manual training, took root first. In no case there is it other than

optional, and in no case more than two hours a week?—It is better to have it optional; the more fact of compelling people to do things sometimes causes opposition.

20715. Mr. MOLLAY.—You are in favour of the introduction of elementary science?—I am.

20716. Have you any experience of schools where that was carried on at any time during your career?—Not the plan I would advocate exactly.

20717. What is your plan?—That all the schools should have object lessons involving scientific ideas and leading up to the natural sciences, and in the higher classes those subjects should be taught in scientific subjects.

20718. With apparatus?—Yes.

20719. What is your view with regard to the probability of managers supplying apparatus or contributing towards it?—I am hardly prepared to answer that.

20720. You think it would devolve on the department to supply the apparatus?—Or to assist in supplying I think so.

20721. And the corresponding assistance would come from?—Local sources of some kind, but I am afraid in many cases that means the teacher.

20722. CHAIRMAN.—Do you think in a place like Derry the Corporation would assist?—I think so. We have at present in Derry a very good School of Art, and I think there is a feeling in Derry that there ought also to be a school of science and technical work.

20723. Mr. MOLLAY.—In the Derry School of Art would it be possible for the teachers to qualify for a more advanced kind of drawing?—Oh, yes, the classes are so arranged as to meet the convenience of teachers, if they only attend.

20724. Are they availed of?—They are to a certain extent.

20725. A number of teachers in Derry send the district attend the School of Art?—Yes, but not so many as I should like.

20726. Is there any examination carried on in connection with the School of Art?—There are examinations conducted by the Science and Art Department in which the school is very successful indeed.

20727. Those certificates would hold good under the National Board?—I am afraid not; but that might be modified.

20728. Why do you say you are afraid not?—I understand our Board expects their own certificate to be taken; they may take others, but I have not known it.

20729. Beyond all doubt, if satisfactory evidence of competency has given, no matter where the certificate is obtained, the National Board will accept it, and therefore it might be desirable that there would be an extension of that attendance at the School of Art, assuming it is carried on on satisfactory and efficient lines?—Yes.

20730. CAPTAIN SHAW.—If you introduce agricultural teaching into the lesson books, would they learn anything which the agricultural students don't know themselves, which they cannot observe in the country round them?—As a matter of fact boys don't learn much intelligently about agriculture from seeing what goes on around them; they are most of their time at school, and in their home life they don't occupy their time in agricultural work.

20731. Is it your opinion that in the country the children don't assist on the farms?—They do to a certain extent, especially in the two seasons, seed time and harvest.

20732. Would you wish to include in your lesson book anything which they would not see personally and have practical experience of?—Not much. I would wish to include the explanation of what they saw.

20733. Would not that bring you back to where you are now?—It would reduce the number of subjects. We have now agriculture as a separate subject.

20734. If you were going to explain these things, would not the book be so large as almost to bring you back to the present book?—I think not, I would leave out a good deal that might come in agriculture for future explanation. I would rather teach the pupils what would interest them and give them a general understanding.

20735. I don't see how they could get a more general understanding than what they get in the field?—I would have no objection to leave it out and let them be taught in the fields.

20736. With regard to geography, do you suggest a similar course of readers?—Oh, yes, I believe the lessons descriptive of geography that were contained in our lesson books many years ago went very far to give our children an intelligent knowledge of peoples and countries.

20737. Would you approve of geographical readers in which maps were used for explanation instead of formal geography?—Yes, instead of and supplemented perhaps by the formal geography.

20738. Do you think it necessary to inspect and examine individuals for reading?—I do. I have never seen any reason why it should not be done.

20739. In kindergarten?—Yes.

20740. Are there any examinations in the schools themselves, do the teachers hold examinations?—Well a few do, but I am afraid they don't generally. I think they ought to have systematic and periodic examinations of their pupils, but I don't know that that is done.

20741. If the pupils were examined periodically, and placed in the classes according to their requirements and given marks, would not that largely satisfy you instead of an annual examination?—It would certainly save me very much.

20742. Don't you think the teachers are almost better able to examine the students in that way than an inspector coming in who does not know the idiosyncrasies of each student?—I don't know that the idiosyncrasies count for very much, they have to be attended to by any judicious examiner of course.

20743. But he only meets the student for a short time, and much of his examination is by writing?—That would be the same whether the teacher examines or the inspector.

20744. The teacher would meet the children all the year round?—Yes; of course that would go very far to do away with inspectors altogether.

20745. If a teacher examined periodically and placed the children in the schools, would you be content with a modified inspection?—You would take certain classes and examine them, and pay more attention to the teacher's method?—I should like to pay attention to the teacher's method at a different time and not combine it with an examination.

20746. Would not that imply a large increase in the inspectional staff?—It would imply some increase, but not much, I think by slightly reducing the programme, combining the subheads, striking off the separate examination in agriculture, and a few more modifications, the work would be shortened a little.

20747. Would you approve of a leaving certificate for the children?—Yes, I think so; that is a certificate of having passed the highest grade, I think so.

20748. If you had periodic examinations by the teachers and leaving certificates, perhaps then you could see your way to having a biennial examination by the inspectors?—Perhaps I could, but I should like to have it tried experimentally first.

20749. Mr. SWINBURNE.—You attach great importance to instruction in reading?—I do.

20750. What do you say about instituting tests in written reading?—I think that a very desirable thing; I think in the senior classes it should always be adopted.

20751. It is very important that children when leaving school should be able to read at sight a fairly

easy passage at all events, and not merely to read a book which they had got up during the year?—I sometimes display that test myself, not as a test for marking, but to satisfy myself; if I am reading a particular book that seems unobjectionable, I sometimes put that into the hands of the pupil or monitor.

20752. Is it not a better test of the pupil's general power of reading than to ask them to read from a book which they may have gone over two or three times in the year?—Yes.

20753. What do you say to allowing teachers to take their children out to farms in the country, see the plants that grew there, and have lectures on them afterwards?—I think that is very desirable, and that would be introducing practical agriculture, which is the only way in which agriculture can be taught, and in one school in my district that is done; they have a school farm.

20754. It can be done under the present regulations of the Board?—There are no farms attached to give this practical agriculture.

20755. I did not mean that there should be a special school farm?—I understand—the neighbouring farms, there is nothing to prevent that being done, or the teacher drawing attention to any particular operation that may be going on in a particular field.

20756. I did not mean so much directed towards agricultural operations as to the general study of natural history, so to speak,—flowers and plants and plant life generally?—I think I have a special note on that. I think botany is a subject that ought to be taught to all our pupils more or less, the materials are everywhere, the study is a most interesting one, and nothing cultivates or sharpens the eye at any rate so much as that. Then it develops the logical faculty in the study of the classification of plants.

20757. Perhaps the children's powers of observation to begin with might help the powers of reasoning, and might not these examinations and observations be made very useful material for composition afterwards in schools?—Certainly, nothing more useful.

20758. In fact it is much better the children should write about some thing they have definitely seen and examined, than that they should write at large about honesty, punctuality, and things of an abstract order?—Very much better, there would be something in their letters if they wrote about things they saw and were regularly trained to do that.

20759. That would help to make the work more practical?—It would, it would help to give them a greater interest in their work.

20760. And if the drawing in the school were made of such a kind that the children were able to sketch roughly the objects they have seen, it would also tend to make it more practical?—It would, I believe that drawing should be taught not merely for its own sake, but for the sake of illustrating every other school subject.

20761. So that the whole school instruction might to a certain extent be grouped round what the children actually saw and knew?—Exactly.

20762. They might examine it, describe it, read about it, write about it, draw it?—Yes.

20763. So that everything they did would be more or less of a practical nature?—Quite so; and farther than that I think the microscope might be brought into play a little to show the minute structures of the plant.

20764. For the older pupils?—Yes.

20765. Don't you think that the present methods of examination rather tend to prevent an inspector giving sufficient attention to methods of teaching?—Well, to a certain extent they do, but I think every judicious examiner tries, even by his examination, to indicate in what way subjects ought to be taught, I know I spend a great deal more time in my examinations than would be sufficient to satisfy myself as to the qualifications of pupils.

20766. Suppose you have a large number of pupils to go through in a limited time, and have to examine

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each one of those pupils individually in a great number of subjects, your attention must be concentrated on the question of whether those pupils pass or not.—That is the main point, but the examination also tests the method of teaching.

20767. Take the case of writing now: you give a class a dictation test and you examine that dictation, you say that is fairly well written or indifferently written as it may be, but that test itself gives you no indication of how the children held a pen.—Indirectly it does, because if the letters were badly formed the pen cannot have been properly held, but I am sorry to say in a great number of my schools I find the pen very badly held; I don't merely examine the writing, I watch how they do and draw the attention of the teacher to it.

20768. You find you have leisure for that?—Oh, yes.

20769. Suppose you do draw the attention of the teacher to it, could you have any means of getting him to attend to it, it does not affect the routine lesson?—It is only moral suasion, or if it is very bad I can mention it in my report.

20770. In examining the arithmetic, take eleven four and five, and upwards, you give them a card to do a certain number of sums on it?—Yes.

20771. Do you pay any attention whether they can do their sums quickly or not, or are expert in calculation?—Well, I confess I don't limit them strictly to time.

20772. But that is rather an important thing?—It is, and that is tested sometimes, I am sorry to say not always, by slow work in composed addition sums.

20773. But the other is the thing you must do first: the test of accuracy by means of the card is the all-important thing?—It must come first.

20774. And such a consideration as speed is only a secondary thing?—Yes, it does not enter into the work we assign for a pass.

20775. Similarly in the lower classes you give Class I a sum in addition, if they all do it correctly they all get a first class pass?—No, in that case I am able to test the method and modify the method of that class. I generally find when I give a sum in addition that the children see their fingers or nod their heads. I stop that because I insist each pupil shall do it orally. I get each child to do the question orally until I have secured that the subject is thoroughly taught, and subsequently I take one here and there at the examination.

20776. CHAIRMAN.—Do you mean that you ask them questions, and they do the sum on the slate?—They have the questions on the slate, and they simply go through the process of adding.

20777. Mr. STRATHEARN.—Is not that really a class examination?—It is individual examination. I examine each individual on the subject and see that he is able to do his work.

20778. I understand you give a sum to the whole class?—I don't give the same sum.

20779. You give each individual pupil a different sum?—I do, if there are five numbers to be added I give four numbers to all, and get each to place under these a different number.

20780. You spoke of the advisability of having prizes for order and discipline?—Yes.

20781. And I think you favour that idea?—I do.

20782. Might not that happen—that only a small number of schools thought themselves in the running for these prizes, these would really make some effort to improve their condition, while the others, who thought they had no chance of it, would not be at all influenced?—You did not quite understand me, I don't mean that there should be competitive prizes, but that each school that distinguishes itself should get a prize.

20783. The word "prizes" suggested to my mind that there was a competition?—I don't mean that.

20784. Without giving up individual examination altogether, what do you say to retaining it in the fourth and higher classes, and leaving it out in the lower?—Well, I confess I find less difficulty in retaining it in

the lower, because I get through most of the individual examination of the junior classes while the senior classes are at written work.

20785. It is not a question of convenience, it is a question of which is the most effective way of examining the school?—I have given my opinion at present.

20786. You would still retain individual examination in such subjects as geography?—Yes.

20787. Examining each pupil individually?—I don't know that I examine that way, I ask one question and I pass the questions round the class, and the advantage of that, to my mind is, if there is any nervousness in a particular individual he may be affected by one question, but when the question comes round to him again he may have recovered his equanimity.

20788. That in pretty near what I would call class examination?—If that is class examination, I approve of it.

20789. Rev. Dr. WILSON.—The scope of the Compulsory Education Act is limited to 118 towns; would you not think it much better in the interests of the education of the country to have it embrace the whole of Ireland?—Certainly.

20790. You would have every child of school age brought to some school?—Yes.

20791. Would you not believe, looking at the character of our population, that if our education were less literary, and portion of the time was given to what would enable them to be handy in every way, it would be better for the children?—I can answer that question only in a roundabout way. I don't think the education should become in any degree less literary, but rather more literary than it is, but at the same time I believe that something that would make them handy and smart in adapting themselves to circumstances afterwards is very desirable.

20792. Would you not believe that if a boy who is to be a ploughman was taught to read well and write well and count well, but not taught the higher parts of arithmetic, or the more difficult parts of geography, and if he was also taught how to mend his plough and arrange his harness, would you not think he had received the best education for him?—I am afraid not, I want him to be an educated man, and even if he is a ploughman that won't do him any harm.

20793. Even if he get the whole of it in five years?—A boy may be likely to be a ploughman, yet how often the contrary happens. This boy we suppose likely to be a ploughman may develop some ambition, go abroad, and turn to something quite different. We should endeavour to give every boy and every girl a sufficient education to turn to any walk in life. It is very desirable that a ploughman should know all about his plough, of course, but he should have the education besides.

20794. It has been remarked that our boys come out from the National schools all desirous to be clerical men, all looking for situations—these not being one situation for every ten applicants—and that they are above doing work that would really support them in life. Would not our education be better if it were to train them for what will be really the work of the future?—That was our consideration that weighed with me in considering this matter and in giving my approval to the introduction of manual training. I think it is very desirable that this should be introduced, so as to do away with this idea that manual work is degrading work.

20795. The opinion very much prevails that it is degrading work. When you train a lad in the higher mathematics he is above the work that really he must do if he is to live. As regards needlework, we saw in some places here that there was needlework for an hour, do you think it would not be better if that was for half an hour, and the other half spent in teaching plain cooking?—I would not divide the hour. I think an hour at a time is little enough for needlework, but I would say three hours a week is quite sufficient, and the other two should be devoted to cookery if only the difficulties surrounding the intro-

duction of the subject can be overcome. I think an hour is little enough time for the needlework lesson; it takes some time to get the materials out and some time to collect them afterwards.

20794. I notice you have said, and I agree with you, that the true way to interest the teacher in teaching these additional subjects is through the pocket-book.

20797. That is, you put them on the same level as the clergy?—Yes, and as most other professional men.

20798. Rev. Dr. Evans.—Are there any evening schools in your district?—There is one.

20799. Where is it?—At Maha Head.

20800. What is taught in that evening school?—It was only opened last year, and has been in existence for only one session—reading, writing arithmetic, and spelling—four subjects.

20801. Is drawing taught in all the schools in your district?—No.

20802. Is about what proportion?—Drawing was taught in thirty-one schools out of 169 in the last official year.

20803. Are there any teachers in the balance of the 140 schools certificated to teach well?—There are.

20804. Are the managers against it?—No manager is against it. The managers are all, I believe, quite glad to see the subject taken up.

20805. Are you in favour of drawing being taught wherever it can be taught?—I am, wherever it can be taught well.

20806. Would you make it compulsory in the schools?—Yes, and teachers should have certificates.

20807. What would you do with the teachers who have not certificates, and the children in those schools where the teachers have not certificates?—In the first place I would say to those teachers, "get certificates, the way is open," we hold examinations every year. And if there be some who don't quite come up to the standard, I would say let a provisional certificate be given to those.

20808. But you are in favour of having drawing taught as widely as possible?—I am very much.

20809. Is there any manual instruction given in your district?—None.

20810. Is the alternative programme for girls in use in your district?—I think, in two schools, there is one near Maha Head, and I think a convent school in Carnagh, I am not quite sure about that.

Mr. F. KARDINE, Head Inspector of National Schools, examined.

20831. CHAIRMAN.—You are the head inspector of national schools in the Lonsdown district?—I am, my lord.

20832. Will you give the Commission your views on the subject of the teaching of physical and applied science in National schools?—I can go back to the period when it was first introduced, that was in the year 1853, it was taught by Dr. Clarke, and I was his assistant. Here is a syllabus (produced) of a portion of the subjects actually taught in the Galway Model School. The actual teaching was an hour a day to the pupils, and as far as possible the advanced pupils were encouraged to assist in giving experiments, and also to endeavour to construct simple forms of apparatus.

20833. To make balances?—Precisely, and also levers, a combination of levers, wheel and axle, pulleys, and see their practical effect. This instruction was also given to teachers; a class was opened in the morning, the teachers in the model school were instructed in that for an hour every morning, and then there were lectures given to which the teachers of the district were invited to attend on Saturdays.

20834. Did they come?—They did in large numbers, in Belfast particularly.

20811. Were there a large number of schools that taught that programme formerly?—I think so.

20812. Why was it given up?—It was given up because the teachers were never in favour of it, so long as they were compelled to teach it of course they did, then when they saw they could get exemption from it one after the other obtained exemption; and the pupils and their parents were not in favour of it.

20813. I think you said you were in favour of elementary science being taught?—Yes, very much.

20814. I don't remember that you told us what portions of elementary science you think suitable for our National schools?—Well, I think what the Science and Art Department call physiography would include a great deal, and perhaps more, but a great deal of what I would consider suitable for the classes, that is for the lower classes, and in the higher classes I think some chemistry should be taught and certainly some botany.

20815. Dr. Wilson asked you a question about advanced arithmetic, do you think our programme in arithmetic is too far advanced?—I do not.

20816. You would not be in favour of sending any portion of the advanced arithmetic and substituting for it practical measurement?—I think practical measurement should be joined on to advanced arithmetic, but the parts that need be joined on are not so heavy as to involve an omission from the present course.

20817. But there are parts of measurement that would be very useful to a boy in the country?—Certainly, a boy ought to be able to calculate the area of a field.

20818. And when he has a quantity of seed to put into a field of a certain size he ought to be able to go pretty accurately to work and not go by rule of thumb?—Yes.

20819. You would not suit any portion of arithmetic to introduce measurement?—I would not. Of course arithmetic is very difficult to teach, and made heavier by our absurd system of weights and measures, but if we could get the metric system introduced it would simplify the matter.

20820. You are in favour of domestic economy, what is taught under that name in our schools?—The various ideas connected with healthy houses, the ventilation of the house, the necessity for cleanliness, the value of pure air, and the process of respiration, and ecology of course would come in.

20825. Then you were not confined to Galway?—No, I give this table as representing the course of instruction given in each of the model schools, this happened to be published in the report of the Galway Model School.

20826. Is that system taught in the schools now?—No, it was given up after the death of Dr. Clarke, the same enthusiasm that he devoted to it could not again be found and it died out.

20827. Do you think it would be advisable to revive it?—I do, I think that would be the proper extension on the manual side of the literary instruction that the children now receive, that would be one means; drawing with practical geometry, to include the measurement of the school, drawing to scale, making the elevations, measuring fields, laying maps, all this would be using the hand and eye. And practical geometry coupled with measurement would then be a natural extension of the drawing lesson in the school and coupling it with kinship, games, so that it would furnish without a break the regular instruction of the hand and eye from the infant to the time he would leave school.

20828. You disapprove of the present system of having a break after the infant classes?—I do.

Lonsdown,
Feb. 18, 1881.
W. F. J.
Browne, & Co.

Mr. F.
Kardine.

Londonderry.

Oct 16, 1900.

Mr F.
Baskley.

20829. Is kindergarten taught in the first class?—It is, it is taught in the two classes to the child while he remains in the infant school.

20830. Do you call the first and second class the infant school?—Yes, children who are under eight are infants, it is an age division.

20831. Rev. Dr. EVANS.—Where is your own district, Mr. Baskley?—I have thirty-four schools, principally in the neighbourhood of Lisavady, a few on the Waterside, the south side or west side of the Foyle.

20832. Your district is a very wide one?—It extends from Fair Head down to Malbegmore in Sligo, goes down to Ballinacorney, embraces the whole of the counties Fermanagh, Donegal, Londonderry and Tyrone, and that portion of Antrim that skirts the Bann, it has the east side of the river Bann, a strip along the east side, from Toome Bridge to Benbulla and Giant Causeway.

20833. Are there any school gardens in your district or in the district?—I have two school gardens in my own special district.

20834. Is the work done there useful?—Extremely useful.

20835. Would you like to see it extended?—I am very anxious that it should.

20836. Are fees paid to the teacher there for the work done in the school garden?—Yes.

20837. Does he use our agricultural text-book?—He does.

20838. The one edited by Mr. Carroll?—The new edition is introduced now.

20839. Have you read that book?—I have read it, but not to be able to speak very minutely of it.

20840. Did you examine in it?—I am not very familiar with it.

20841. Don't you examine the pupils?—Where they have been taught it, because there is a latitude allowed, they don't like to buy the new book where they have the old one.

20842. CHAIRMAN.—It is a very long book?—No, my lord, it is divided into two.

20843. Rev. Dr. EVANS.—You have no fault yourself to find with it?—No.

20844. And you think an intelligent teacher might find it a very suitable text-book for use in the school?—He might; but there are a whole lot of technicalities and big words that convey no information to the teacher or to the child.

20845. To the teacher himself? A specimen, please?—A great many of them. Take "carbonic acid." It conveys no idea to their minds, or the use of chemical language, of which they have no comprehension. If they could be taught to understand these things it would be useful.

20846. Is there a school-farm at all in all your district?—No.

20847. Mr. MASON.—Eglinton, Templemore?—That is given up.

Mr. BROWN.—There is one at Park, in my district.

20848. Rev. Dr. EVANS.—Do you find any difficulty in getting an adequate supply of boys to come forward as monitors and pupil teachers?—No difficulty, and there is rather an excessive amount of girls candidates.

20849. Were we to decide to have manual instruction, some of the inspectors say there would be a difficulty in getting boys to come forward?—I think it could be made so interesting to boys that they would come forward. Boys like to use their hands, they are too active. If a boy gets a penknife he comes back to score the desks.

20850. CHAIRMAN.—I suppose you can quite believe, what we have been told, that when there is manual instruction the boys attend better on the days of manual instruction than on any other days of the week?—I would quite expect that.

20851. Rev. Dr. EVANS.—Are you satisfied with the programme in arithmetic?—I think it is too high

for girls; for boys it is fair enough. I would couple measurement with it.

20852. You are very confident, in your opinion, that that would be a wise thing?—I am. I think I would leave out all beyond commercial arithmetic. I would let them have the square root, but I don't see the use of the cube root. It is a hard rule for them to learn, and in place of that I would put in measurement.

20853. Is needlework well taught in your schools?—There is the time given to that is prescribed. I cannot say it is well taught—in this way, that the children seldom or never bring garments. They bring, approaching the day of the examination, the little articles prescribed by the programme, and this is made up for the day of the examination. All the rest of the time they are only working on practicing specimens—little bits of calico on which they hem and stitch.

20854. You have made a very interesting observation in your report, to the effect that "Drawing is becoming a very popular subject, and instruction in it is extending every day." Is that still going on?—It is.

20855. What has rendered it more popular than formerly?—People are commencing to see that it is akin to writing. It helps the writing, and is a means of occupying the children usefully and intelligently.

20856. You yourself encourage it, and would wish to see it universal?—I would.

20857. What would you do in the case of old teachers who have not certificates?—I would accept his results, and sometimes the boys by competition sharpen each other, and will really acquire skill in that way if he supervises, and these old teachers would look after it pretty keenly themselves.

20858. You think the training colleges have helped in bringing about this increased popularity in the teaching of drawing?—I do.

20859. You say it is the best introduction to hand and eye training?—Yes.

20860. Would you develop that a little?—In drawing we have to observe first the shape of the object we are going to draw, then the eye is called in; then that is reproduced by the hand. If you are using a saw or chisel, when the eye has got some training the hand is guided by the previous training the eye has received.

20861. You have found managers to co-operate heartily with you?—Without exception I can say so.

20862. You regard the managers throughout your district as very much interested in their work, and in the prosperity of their schools?—Some of them enthusiastically so.

20863. Do you think those managers would co-operate in the introduction of a kind of manual instruction in the schools?—I do.

20864. We should have the managers with us?—We must have the managers, and I would say the teachers.

20865. The teachers as a body?—Yes; and I would think the subject itself would be very popular with the pupils.

20866. Rev. Dr. WILSON.—You think it would be very important that the eye and hand should be trained?—I do. I think without training the hand and eye mere mental cultivation is lap-sided, so far as the development of the faculties of the child. I may add to that, I have known instances where boys, who as to their literary instruction would at once take place at the head of the dunce class, afterwards showed special aptitude in mechanical work.

20867. Therefore you would be entirely in favour of the introduction of manual instruction as an addition to our literary instruction in National schools?—Yes, I would give two hours in the week to it. And these two hours could be got easily—Saturday at present is lost, except in the Model schools—I would give one or two hours on Saturday, and I am quite sure the teachers would be willing to give that time without teaching on our present literary programmes.

20868. As our Chairman has brought out, we have had it stated to us that the boys were all delighted with the manual instruction, and that the days on which it was given were the days of the best attendance, you think it would be equally popular in your district?—I have no reason to believe otherwise.

20869. Captain SHAW.—Was this syllabus you have handed in, all taught in the schools?—It was all taught.

20870. How many years' course does it represent?—It represents three months' instruction.

20871. Do you think all these subjects could be properly covered in that time?—They were so, the Professors of the Queen's College in Galway were asked to examine, and this syllabus was handed to them.

20872. How many hours a day were given?—I would say there was one hour in the middle of the day, and another in the afternoon, and another in the evening. One hour was compulsory during school hours; the other hours were optional.

20873. What was the class of students?—The senior students.

20874. Do you know how long the elementary course in physiography under the Science and Art Department is intended to take?—No, I do not. I am not familiar at present with the Department's course.

20875. The course is a two-years' course?—But the Science and Art Department only requires twenty lessons in the year.

20876. That is the minimum?—If you give three lessons a day for three months, you have 270, and that represents nine years of years.

20877. Have you considered how far the children should do experimental work themselves?—Yes, there is nothing to prevent them making levers in the mechanical powers.

20878. What class would you contemplate should begin to do experimental work?—The fifth class. They could use a penknife with soft wood, and make their levers of the first, second, and third orders. Little spears could be made into pulleys, wheels and axles; they could extemporize them.

20879. Do you think they get any accurate results from apparatus they make so?—Not much, not accurate, but it would occupy the hand, and train the eye. There is nothing to prevent them utilising Florence flasks and making retorts, heating glass tubes with a Bunsen burner and gas. They can all do that.

20880. They can learn the use of the balance?—They can.

20881. And they can do a large amount of experimental work with it?—They can.

20882. They can also do a great deal in the way of measurement?—Yes.

20883. You think these would be suitable for the fifth class?—I do.

20884. And continued through the sixth?—Continued through the sixth.

20885. Then do you think the addition of measurement to arithmetic would give greater labour in teaching it?—I think not.

20886. On the contrary, would it not rather tend to simplify it?—It would give them an interest to use one of the applications of arithmetic.

20887. Can you not take multiplication and division and all these things with a simple scale?—To let them see a room and measure it, and find out its dimensions and make a plan of it, it would give them an increased interest. They have nothing but abstract things up to this, and to get some concrete matter is what they require.

20888. That would render the teaching of arithmetic easier?—I would say it would make it easier.

20889. Mr. MONTAGU.—You are in favour of the extension of the kindergarten system throughout the schools?—I am of opinion that any training we give

in manual work should be a development and extension of the kindergarten.

20890. A former witness, a practical teacher, stated to us, that he preferred to begin the instruction with pupils who had never learned kindergarten rather than with those who had received some instruction in it. Would you concur in such a statement as that?—It must have been very badly taught, the kindergarten he speaks of.

20891. Practically you say that kindergarten would be an advantage in the teaching of writing. Allow me to read a passage from your report—"A pupil who is advanced in kindergarten learns to write sooner a good hand and to be more generally apt, to get on quicker in the other branches of the school course than one not so brought up?"—That is my experience.

20892. "I mention writing first as more or less kindergarten drawing," you also say "drawing in one form or another is practised in all the infant schools where kindergarten is taught, and the hand and eye is exercised in both," and you look forward to the extension of that practice as carrying with it very valuable results?—I do.

20893. Then I take it you are in favour of the extension of the kindergarten beyond the second class?—I am.

20894. Would you desire to have it introduced into the ordinary schools generally?—I would, our infants are idle during the greater part of the day, and if we had kindergarten exercises they would not have to stay idle.

20895. Then not merely as an occupation for infants, but also for its educational value, you desire an extension of kindergarten throughout the schools?—Yes.

20896. Would you think any difficulty would be experienced in carrying it out in the principal rooms of the school if there were no class-room attached?—It could be done.

20897. And the ordinary business of the other classes would not be thereby interfered with?—I think so.

20898. You say you agree in the statement—"It is not desirable that trades, in connection with the manual instruction idea, should be taught in schools, but we may at least secure such a well balanced development of the faculties of the pupils as shall place them in a position of greater freedom in the choice of their life-work, when they leave school." You agree in that statement?—I do.

20899. It is made in the report of Mr. Stothens, a member of this Commission. Coming for a moment to a matter in which you were practically, and, as I happen to know, very successfully engaged some years ago, when you were assistant to the late Dr. Clarke, you mentioned that his course embraced applied science, and not merely theoretical?—Yes.

20900. And it took in such subjects as chemistry, hydromechanics, pneumatics, magnetism, electricity, light and sound. Now would you briefly indicate what particular branches of these were carried on, chemistry, air and water?—Yes, the manufacture of coal gas, also the preparation of bleaching powder. I remember going with him to see how bleaching powder was manufactured near the Inchicore Railway Works. And the manufacture of sulphuric acid, commonly known as oil of vitriol, we went to see that made in Ballymacarrett, there are also works in Dublin. The making of the other ordinary commercial acids. This did not extend very far, but the elementary principles were taken up, they were illustrated in these manufactures.

20901. Hydromechanics, pneumatics, the general laws of liquids and gases?—Yes, and their applications, pumps.

20902. And particular attention was paid to the subject of mechanics?—Yes.

20903. Properties of matter, mechanical power, relation of cause and effect?—The construction of a

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Mr. F. B. Bailey.

common clock and the striking arrangements, all to exercise the intelligence of the children.

20904. Captain Shaw asked how long that course lasted?—Three months; but it meant extra pressure, and a good deal was sacrificed to let it have headway.

20905. Mr. Nassau. —Dr. Clarke attended for three or four months?—Yes.

20906. And then it was left for special teachers? —The special teachers carried it on.

20907. You remained and carried it on for a longer period, and the pupils taught by you the first year would come forward the second year, and in that way have a very extensive course?—Yes.

20908. What portion of time throughout the week was devoted to this course?—When they got into regular work it was an hour a day.

20909. I believe sometimes the lectures commenced very early in the case of the intern teachers of model schools?—That was in the morning, 7 to 8 o'clock.

20910. And they attended willingly?—Oh, willingly.

20911. They attended also on Saturdays?—Yes.

20912. In the case of the senior pupils of the schools what were the hours?—In some places if the school was dismissed at 3 it commenced at half-past 3, and did not dismiss until half-past 5, that was taking in half-an-hour in addition to the ordinary school hours.

20913. Was it found that the pupils took great interest in this matter and attended regularly?—Regularly.

20914. Were they enthusiastic about it?—Yes, and with the novelty of the apparatus, they were quite enthusiastic.

20915. And on the Saturdays the teachers of the surrounding National schools also came in?—All came in, and in Belfast our gallery was crowded with teachers from the town schools.

20916. Then in addition to a certain extent of practical and theoretical instruction, the students accompanied Dr. Clarke in visits to objects of interest in the neighbourhood. When he was lecturing in Newry they went out with him?—To Bessbrook, and near that there was a fine granite quarry, which is still going on. It was worked at a financial loss owing to the drainage, and there was not much demand for the stone until a clever fellow put a syphon there which drained the quarry, and then the thing was worked at a profit.

20917. And when lecturing at Lichboro, brought them to the workshops and gave an explanation on the spot on the locomotive steam engine?—On what was going on.

20918. And again at the works of the Messrs. Richardson?—Yes, at Bessbrook.

20919. And also in the neighbourhood of Lisburn? —The Bleaching Green there. At the time we were in Galway there were iodine works going on, and we went to see those.

20920. Was it your experience that instruction of that kind interested in the least with the literary course of the pupils?—Their intelligence was raised and stimulated, so that the acquisition of other things was rendered easier.

20921. Was there an extension of the school time?—The school time was extended half an hour.

20922. And also the instruction on Saturdays?—The instruction on Saturdays.

20923. And no other process, so to say, brought to bear on the pupils?—No other, to be sure.

20924. Had you any opportunity of ascertaining the feelings of the parents?—At that time it was the custom to have public examinations in the model schools where the children put in their best appearance, came out in gala dress, and the place was always crowded by parents anxious to see the children acquit themselves with credit.

20925. Was there any extra fee for this instruction?—Nothing whatever.

20926. Did the pupil pay any fee?—The pupil paid no fee and the teacher received none.

20927. And still it was carried out on this extensive scale?—After a while the Commissioners gave £10 a year to the teacher.

20928. You say the Commissioners gave Dr. Clarke and gave you, later on, authority to purchase for each school visited and lectured in apparatus to the cost of £10 or £15?—Yes.

20929. Did you find that amount of apparatus sufficient?—We did.

20930. And some portion of the apparatus was left behind in the school?—To continue on the work—models of telegraphs, &c.

20931. Was it your experience that you remained sufficiently long to admit of the teacher carrying on that instruction in a successful manner?—We took care that was the case, that the teacher had to assist in making all the experiments, everything necessary to carry on the instruction the teacher was obliged to perform.

20932. Would you briefly indicate what led to the discontinuance of the excellent system you have described, that, educationally, was so advantageous?—After Dr. Clarke's death it died, there was no one to keep up the enthusiasm.

20933. And you became inspector, and turned your attention to another sphere of duty?—That was so.

20934. But you see no difficulty about re-introducing such a thing under a highly qualified expert?—No.

20935. I think I noticed in your report that the needlework was not quite satisfactorily carried out in your course?—That is so.

20936. You say—"Dressmaking is nominally taught, but I have rarely found a girl in fifth or sixth class wearing a dress which was the work of her own hands." Why is that?—They think they would not be sufficiently well made; it would not be fashionable.

20937. It is an indispension on the part of the pupils?—Yes; when they get to twelve or fourteen they begin to be up in the fashions, and unless the dresses are admirably made and stylish they won't put them on.

20938. But if they were taught by the teacher of the school to make them admirable?—They would not have the advantages they consider necessary, they will make for their younger sisters readily enough.

20939. What is your experience about the repairing of garments?—That they do not like to bring shabby things to school.

20940. On repairing garments at home?—They may do a little at home, but they don't like bringing work to the school unless the material be new.

20941. If I mistake not you said you would have measurement added to arithmetic?—Yes.

20942. In former years it was taught as a separate subject?—It was.

20943. And you are aware that under the new programme measurement is a separate subject for teachers?—Yes.

20944. Would it not be desirable to have that a separate subject for the pupils?—Yes, and give a fee for it, preferable to pure geometry.

20945. Have you turned your attention to the introduction of cookery classes throughout your circuit, is Cooktown in your circuit?—Yes. I was going to mention that, there were two classes opened in Cooktown. The Commissioners sent an instructor there, the convent school formed one centre, and all the other schools of the town grouped themselves to make another centre and the instruction in the convent was given to convent pupils periodically, and the instruction was given to the three other National schools, in a place provided by the local committee, and this was the Sunday-school of the Free Presbyterian Congregation.

20946. Who supplied the materials?—A committee of ladies supplied it in the case of the Sunday-school, and the Nunn supplied the materials in the other place.

20947. Any inconvenience found with regard to plant?—No, they were enthusiastic at first, but the interest in it died out. It is dead now.

20948. Did that unhappy effect arise from the fact of want of skill on the part of the ordinary teachers of the school or inability to conduct the classes conveniently for the year on the departure of the specialist?—I take it to be unwillingness.

20949. Was it not enthusiastically worked out by the local committee?—The enthusiasm lasted but a very short time.

20950. They subscribed money?—They did, £8 or £10, and I think it cost the current £8 or £10, but somehow or other they all told me that, while they benefited by it and were able to make their dinners more savoury, and employed materials more conscientiously, they got tired of it.

20951. CHAIRMAN.—Perhaps they thought they had learned enough?—That is it.

20952. Mr. MORRIS.—Do you not think if the teachers of the ordinary schools, the mistresses, were sufficiently qualified and carried that on continuously it would be a very great advantage to local parties?—In the country, no—in the town it would have a chance—the fact in the country is very poor and requires very little cooking. For instance, meat is a thing almost unknown in their food.

20953. Was it not advantageous that other than senior pupils took part in the cooking, theoretically and practically, and listened to the demonstration lessons?—Yes, grown girls were invited to come.

20954. Did many ex-National pupils take advantage of that permission?—Not many.

20955. But there was the opportunity?—Yes, and some did, particularly in the current school; there are mills in Cockstown, and there is a good opening for female employment in the mills.

20956. But if I mistake not, the instruction was carried on in the evening, chiefly to take in those mill hands?—It was.

20957. The cooking class in connection with the current was an evening class?—There was also a day class.

20958. Captain SEAW.—When you and Dr. Clarke were giving these lessons in science, for which you received no fee, the results system was not in force?—No.

20959. Do you think if the teacher had to earn results, he would be pleased to have an external teacher coming in and taking two hours a day from his school?—He would be relieved with the cold shudder; teachers don't like outside teachers coming in. The plan would be to let teachers come into centres and acquire the power of giving these lectures themselves, that is the feasible way to introduce this subject.

20960. Mr. RAMINGTON.—Do you think that kindergarten could be taught in a school with one teacher and a monitor?—I do; he could employ an unpaid monitor or two to assist, and they would do—there is a certain amount of willingness to assist on the part of the scholars.

20961. It is not taught now unless there is an organized infant department?—No.

20962. You think it would be practicable and desirable to introduce it into all schools, even if there were only one teacher and a monitor?—Every school that has an infant class should have kindergarten.

20963. And it would not interfere with the work of the other classes if kindergarten exercises were carried out in the same room?—I think not.

20964. I think you said it was objectionable to have carbonate acid referred to in the Agricultural Text-book, as the children could not understand what carbonate acid was?—They were using a term about which they had formed no definite notion.

20965. Does not that point to the necessity of teaching elementary science?—With agriculture as its outcome.

20966. But rather to teach it first before you taught agriculture?—I would teach a little elementary science as the foundation of it, agriculture should be applied with intelligence.

20967. Why are not the science programmes taken up more largely in our schools?—Because the teachers have not the aptitude to use the apparatus; their knowledge of apparatus is so scanty that very few of them can use it.

20968. You think that these programmes are fair enough?—The programmes are fair enough, but if they were taught the instruments necessary to carry out the experiments, for instance the electric telegraph, it would not take very much to let the children see how it was done, it could be done very cheaply.

20969. Do you think science could be taught in any earlier class than the fifth?—I don't think so; I think it would be injudicious. You could teach the children of the third and fourth to cut out with their penknives in soft wood; they might make little toys involving mechanical principles with soft wood and a little wire.

20970. CHAIRMAN.—You never saw any wirework done in schools?—No, never.

20971. Mr. RAMINGTON.—I see in your report for 1895 you say, "The present system of examination leaves too little time for inspection proper," and you go on to say that "it is an incidental waste principally one can judge best of the discipline, taste, and methods; for at the results examination these points are in the hands of the inspectors, and it is his own rather than the teacher's methods and discipline he has before him on such an occasion." Are you still of that opinion?—I am.

20972. Therefore for thorough examination of the teacher's methods you should pay incidental visits?—Incidental visits are necessary.

20973. And more than one?—More than one; there should be a forenoon visit to the school to see that the teacher and the pupils are punctual, and an afternoon visit to see that the rolls are marked and the ventilation attended to.

20974. These incidental visits should last a considerable time?—Not less than half an hour.

20975. A mere visit of a quarter of an hour on the way to a results examination would not be of value?—No, you come in and surprise them, and they do not get over their surprise for the few minutes you remain.

20976. Do you think class examination could be substituted for individual examination in some subjects?—I do. I would persevere with the individual results examination in schools that were not doing well. For those schools that have passed well for two or three years or more I would say accept their results and pay them at the rate they were formerly paid at, have incidental visits until the three years would elapse, and then re-examine, or until a distinct change in the teaching staff occurred. A school that has been intentionally conducted for a number of years—you might pass that for three years, and only have incidental visits—but those schools that were in a shaky condition they should be still examined individually yearly. When the schools found it was a mark of honour to be exempt from yearly results examinations they would try to qualify to get into that category.

20977. You think that you could form a better judgment of the school by having every pupil examined?—The results examinations are most popular—the children like it, their parents like it, and a good teacher likes it.

20978. Is it good for the school?—It is—you appeal to their harmless ambition to excel before their neighbours, and you, I think, raise the tone.

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Eassey.

20979. But I think you have admitted that the method of the teacher is important, and you cannot judge of that by an examination of the pupils?—No, but you can judge backwards; if he turns out good results his methods must be good.

20980. Does that follow?—I think it may, they are not actually convertible, but very nearly so.

20981. Mr. Meador.—You may achieve some of the results in very mechanical ways?—Yes.

20982. Mr. Richardson.—Suppose they had learned a reading lesson by heart and you happened to lift upon that particular lesson?—We can very soon discover whether it is rote work. There are a great many things we all have to learn by rote, we must learn tables, and our vocabularies are rote work; you would not call that cramming. Where what is legitimate ends and the proper begins, that is what the experienced examiner has to distinguish.

20983. Without going into minute details could you tell us how you could lighten the programme if it were thought desirable to do so?—In the third class

I would limit the knowledge to be expected in grammar to the noun, adjective and verb. I would retain his knowledge of the noun and adjective as a necessity to teach him spelling; for instance, the great standing-block with young children is that they cannot distinguish between the pronoun "they" and the definite article "the". If you teach him that the definite article is used before a noun, and the pronoun before a verb it is necessary he should know the noun and the verb. In the higher classes I would limit them to content and syntax.

20984. In your report you say in one place that grammar and geography should be optional subjects, now I understand you to say you would modify the grammar and make it compulsory? I would make it optional still.

20985. And modify it for those who chose to take it up?—Yes.

20986. In the same way with regard to geography you would make that optional, and perhaps modify the details of the programme?—Yes.

Rev James
Gargie, &c.

REV. JAMES GARGIE, D.D., Presbyterian Minister, Londonderry, examined

20987. CHAIRMAN.—You are the Minister of the First Derry Church?—Yes.

20988. And you are prepared to give the Commissioners your views upon the additional subjects that can be taught in National schools without infringing much on the time?—Yes. In the first place, your lordship, I venture to suggest with all deference that drill should be given to both boys and girls. That, I think, could be done at recess, at the periods of changes, without infringing to any appreciable extent upon school time; my object being, your lordship, to keep the bodies of the children in the best possible health, and, in consequence, to keep their minds in the best possible condition for attending to the instructions given, in such a way as to profit both. I think, in the next place, it would be quite possible, without infringing upon school time, to introduce lessons upon natural science, such, for example, as physiology, hygiene, zoology, botany, astronomy, on the principle of a graduated scale running from the simple forms up to the higher and more intricate. These I would introduce, if I could, into the lesson books, according to the precise position the scholar had reached. I would introduce also, as the third place, domestic economy and cookery. On Government, I think, would give us a central place, say here in this city of Derry, with all the appliances necessary, and the school girls from the various schools in the city and surrounding districts could be drafted there at specified times, to get the benefit of the instruction given without infringing very much on school hours. Saturday is a day set with us in reference to school work, that could be utilized, and I think it would be possible to take an attendance in the week, Wednesday or Thursday, by dispensing with certain lessons.

20989. What lessons would you dispense with?—I am not prepared exactly to go into details on that matter. I think, perhaps, dispensing, for example, with home lessons, such as would be given; these were the lines along which my thoughts were running. In the next place I would say also that a central place here would accommodate many of the schools round the neighbourhood, and in that way I think a good deal of saving, both in regard to time and expense, could be accomplished. In the fourth place, I would, as far as possible, keep drawing—meaning by that, drawing from the object—constantly before the child. I don't believe so much in drawing according to specified lines, that may be set down in a very good book, but drawing from the object as a child would see it. I would introduce typewriting and mental arithmetic, so as to prepare in measure for a child becoming acquainted later with the things that are taught in *Écoles d'apprentis* of France, and the trade schools of Switzer-

land and Germany. Then as to the methods of teaching, my position with regard to that is this: I look upon methods of teaching as practically amounting to this, the accumulated experience of the great teachers of the world, whose teaching has been to leave in the child's mind the desire to know more. Now there are three things that it strikes me are necessary in that point of view: in the first place, talent, in the second place, training, and in the third place, experience. I would, as far as possible, educate our teachers more, so that they may be able to educate our scholars more. I mean by education—education—as distinguished from instruction, by way of teaching the scholars to think and act right, and I would do that as far as possible by object lessons—by cultivating their powers of observation as far as possible upon things round about us, as far as that could well be done, such as the things they see, birds and beasts, brick and coal, wind and water, and all these objects. I think in the next place, as illustrating the point I now try to make, that grammar is too much taught in our schools by analysis, and not enough by synthesis. To give an example: a young man applies to me for a situation as assistant teacher, he writes me a letter of application, and there are several mistakes in that letter. If I ask the young man to parse the letter he could parse it every word, but he does not know how to write the letter to a proper form grammatically to me. I submit there is something wrong about the condition of education that creates that thing, and I speak not from one particular instance, but from several instances of a similar kind that have come under my knowledge as a manager of schools. I will give another instance.

"Woe worth the chase, wee worth the day,
That costs thy life, my gallant grey!"

There is not any of these young men or women that would not be able to parse that right through without any difficulty, not making a single mistake, and yet if you ask them to write such a letter as I indicated, probably you would find similar errors. There is far too much analysis and not enough of synthesis, or teaching pupils to build up sentences. You will take what I am saying with great diffidence, and you will excuse me if I speak plainly in reference to these matters; you are only asked to weigh what I say, and need not do more than attribute to me a mistake, if I am making a mistake. I take, for example, such a subject as geography, and I find that in the geography our scholars will be able to answer me all sorts of questions about populations and areas and towns, and all the rest of it. But if I ask them where is the north or where

is the south from the school, they cannot tell me. I submit that this is not a condition of things that ought to exist in the last years of the nineteenth century. Your third class at present requires the outline and leading features of the map of the world. I say give the pupils' minds fish play, let them find the cardinal points of the school by setting up a stick at 12 o'clock on the floor, by sunshine and shadow, do a rough sketch of the school, placing desk, door, and fireplace in their proper positions, sketch the sketch to the city or county map, explain why the proportion is so abnormal, sketch that to the map of Ireland, and explain why the proportion is abnormal, and then a map of Europe, and lastly a map of the globe we live on. Then show the globe with the errory, and explain the position of the universe, and I submit a lesson given like that would leave an impression on the child's mind that would be healthful, strengthen its thinking power, and do it a measure of good. In that connection I am not sure that physical descriptive geography—such, for instance, as the question of dew and 'wags, and climates and products—is taught in our schools as it ought to be. If our young boys and girls are to be merchants and business people, they ought to be acquainted with the climatic conditions of the various countries of the world, with their geographical conditions, and to know exactly where they can get certain products. In that way there are open doors, through which their minds may look, that would bring in large revenues of knowledge to themselves and benefit posterity. I submit, in the third place, that that word "educate" in its literary and derivative significance ought to be more emphasized. Suppose the inspector comes into my school and gives to my fourth class boys—a class that is taught by my very superior and excellent teacher in the middle school, whom you saw yesterday—a lesson such as they have never seen before, and grants them ten minutes to look over that lesson, and when they have looked over the lesson silently themselves, they have never seen it before. As I know it perfectly, he calls up the class and asks them all the questions he can think of out of that lesson, and questions them in regard to their capacity to receive information from it on the things taught in such lesson. I do think an exercise like that—will have a very beneficial effect upon the school, and I can easily see how it would enable the inspector to find whether the child was assimilated or taught, whether the child's intellectual faculties were properly exercised, and whether that with which they were future lierwork is to be done—I mean their mind—was cultivated to any appreciable extent. In that way I think they would see not only efforts and causes, but effects and qualities and relations; they would see the flash of lightning in the deep of dew, and the crystal in the snowflake, see the structure of the daisy, and understand something of the telephone. And I think that subjects like these would be of enormous benefit to the rising generation with whom we have to deal, and would generate inquiry in these children's minds in after years that would be exceedingly healthful. The last point I wish to touch upon is this, some unfairness to the teachers. What I mean by that is this, that in these last years of the nineteenth century, when education should be as free as it is possible to make it, I think it unfair to the teacher that he should have to be paid for learning Latin and French, that a fee of £s. more be paid for such subjects before a child can go and learn them.

20990. You mean paid by the child?—Paid by the child. And in reference, for example, to kindergarten, if a child cannot read, and is five years of age, the teacher gets no results for kindergarten simply because the child has failed in reading, and the same all along the line in reference to sewing, freehand drawing, and the theory of music. I would pay every teacher well for everything he taught, and I would see that

he taught it well, and would not stand anything else. And I would say equate your payment by results in the best way you can, so as to reach the maximum of benefit to the generation to which we belong. I beg pardon if I have been too long, but I will now answer any question your lordship wishes upon anything I have said.

20991. Have you given any consideration to the question of the introduction of manual work?—My conviction is that, taking the age at which we can allow have our children here in this community, and I only speak for this community—that is to say, a child leaves us on the average about twelve years of age, and you only have the child about six years—I think it is not possible for us to do very much, if anything at all, in industrial work, and I would leave that to the various trades, as the thing may arise afterwards. But I would say discipline the hand of the child and the eye of the child and the ear of the child and the mind of the child, so that when it came to do with particular trades, whatever the trade was, the child would be able to acquire it and deal with it in the very best way.

20992. You have expressed very clearly the object of this Commission. This Commission is distinctly not one to inquire how to teach trades, but how to give that preliminary instruction you have mentioned. Do you think that children of eleven years old would benefit by having a course of instruction during their last year in woodwork?—I think probably they would, but the difficulty just there is this—no man knows to what particular trade that particular child would go.

20993. That would be quite true if you were teaching a particular trade; but the object of this manual work, as taught in England, is not to teach a trade, and without the least reference to what particular trade a child will go, but to give him that general power of observation which will enable him to adapt himself to any trade, whether woodwork or some thing quite different?—If the child had in his mind being a mechanic I would advocate very strongly he should learn a little of applied mechanics.

20994. In point of fact the woodwork, as taught under the Sloyd system, is connected with drawing; and it is putting into practice the knowledge the pupil has gained in drawing. Are you in favour of that?—I would, if time allowed, but you stunt the child's mind to a degree when you tie down a child of those years to that particular kind of thing, because that child may be going to work as a clerk—that child may be going, perhaps, to some profession.

20995. How do you stunt his mind—the experience gained elsewhere is exactly the reverse. Instead of stunting his mind you make it more intelligent?—If your lordship will allow me I will withdraw that phrase. But if a child's mind is directed to this particular thing the child has not the opportunity for acquiring what, in my judgment, would be a much more useful thing in after-life—getting the mental instrument thoroughly whetted, that it would be able to apply itself to anything, and its power of observation made so accurate that when it came to work of that kind it would know how to do it.

20996. Rev. Dr. EVANS.—You have been a long time a manager?—Yes, a few years.

20997. How many schools are you manager of?—Four schools.

20998. And, of course, have a long and large experience?—I might query that, but not to you, under the circumstances.

20999. Do you think that the managers of schools might form themselves into an organization or committee of their own for consultation and mutual instruction in the duties of managers?—Well, I think that is possible, but I see very serious difficulties in the way.

21000. Where? Might not the Presbyterian managers, for instance, in Londonbury form themselves into a committee, talk about the state of their schools, know what is taught well in one school, what

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Rev James
Carpus, &c.

London: by
Og. M. M.
Mr. James
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is not, perhaps, taught so well in another, find out the methods that succeed in one case and the methods that fail in another, and bring about a general improvement, and be able to advise the Commissioners of National Education as the result of their experience—I think that is quite possible.

21001. And you believe it would be a good thing if—I believe it would, if properly conducted.

21002. Rev. Dr. Watson.—You are favourable to drill?—Yes, sir.

21003. Well, I quite agree with you in that. I think it is very important that children should be so trained. But you are opposed to the introduction of manual instruction during the few years that the children are with you?—Generally I am, but I think, as you saw yesterday, I am not opposed to it wholly, because I think you saw some good specimens of work lying on the table of the female school.

21004. We certainly did. How would you teach the eye and hand without introducing some form of manual instruction?—I would teach them by drawing and cultivating their powers of observation all along the line. For example, in reference to music you educate the ear. I go to learn the French language—I learn it by books, but when I go to Paris I don't understand a word that is spoken about me. I say that is a condition of things that ought not to exist, and my contention is that the eye, the ear, the touch, and the observation generally of the pupil ought to be called out at every exercise, no matter what he is engaged in. Their minds should be at the tips of their fingers, in the pupils of those eyes, and the drums of their ears, and on the top of the tongue, to catch and express everything that those doors into the human intellect would be able to communicate to them from any quarter that is good and pure and right.

21005. Our object is to see if we could not graft on the National system something connected with manual instruction. Would you not think it would be a great benefit to the children if a daughter was able to teach her mother to cook a plain dinner?—I certainly would, and there is nothing wanted more in this city of ours than lessons on plain cookery for our shopkeepers and artisans, and somewhat advanced cookery for our shopkeepers and better class people.

21006. That is what we want to get introduced?—Quite so, I have given a suggestion on that point.

21007. Then, as to keeping houses well swept and everything well dressed, and cleanliness generally, would you not think that important?—I would, and I think you had an illustration of that in the schools yesterday, under my care, where you saw cleanliness and every other virtue that we could impart there.

21008. Mr. Molloy.—I think you mentioned that the leaving age for your pupils was about twelve?—I spoke generally. I spoke of the average as it comes under my own observation.

21009. You advocate the introduction of such subjects as Latin and French in addition to the ordinary curriculum?—I did where there was time, and I would take them in before and after school hours, and not otherwise. Mr. Molloy, my position is this—I would teach the child everything it wanted to learn within the hours that it was possible to have that child, and I would have my teachers qualified to do that, because I believe all right knowledge is good.

21010. Is it that the parent would induce to you, "I wish my boy to be taught so and so"?—Yes, or the boy or the girl themselves might express a wish.

21011. By whom would all this instruction be carried out?—By the ordinary teacher or teachers in the school.

21012. Then you would want your ordinary teacher to be a walking encyclopedia?—I would, if I could get him, but I would not give you a straw for an ordinary encyclopedia. I want a teacher who has not only the knowledge but the power to transfer his thinking to the child's mind, which is the thing in all education, in my judgment.

21013. The difficulty in my mind when you mentioned these extra subjects was where you would find time to give the instruction, assuming you have that walking encyclopedia?—If you examine, I will put these walking encyclopedias out of the question, because I have met them, and they could no more teach than my umbrella. I want the power to transfer their thoughts to the child's mind, and of guiding their thinking upon the child's, so that the child may be able to utilise the thought the teacher has transferred, and cherish that thought in his own thought, as we find little plants and flowers cultivated in the coarsest period of our earth.

21014. Would you be in favour of a special teaching special subjects in the ordinary national schools?—I would, if we can get time for it. I will give you an illustration, if you wish: my own teachers come to their school at 9 o'clock, they teach extra subjects from 9 to 10; they begin the ordinary school work at 10, and they teach extra subjects very often after 5.

21015. And on Saturdays I suppose also?—And on Saturdays they very often occupy their time in that way; I encourage them to teach all they can, I encourage them to get all the results they can, and I think they are too poorly paid for the work they do.

21016. Do you find the pupils attend for the extra instruction willingly?—Not only willingly, but they are on the spot as regularly as the clock, and most anxious to get it—that is, those whose minds are awakened, and we have plenty such minds in the city of Derry, I can tell you.

21017. Saturday, you mentioned, could be largely utilised?—I did, because it is a *chose neuve*, as you are aware, Mr. Molloy.

21018. The hours, you say, are from nine o'clock in the morning until three; do you find those oppressive in any way to the pupils?—I think, as regard to the infants, the hours could be shortened, and I think it would be an enormous improvement, your lordship and Mr. Molloy, if you had an hour of a recess in the middle of the day to let the children get some food, I think we ought to adopt the English method in that. I think it is a crying shame, not to give a rin, to keep little children at school from 10 to 3 with only two short an intermission, and the poor little ones starving with hunger, and many of them laying up the poison of ill-health for after years.

21019. You will be glad to hear the National Board has already adopted that plan, and it is in force in some schools?—The sooner it is in force here, your lordship and Mr. Molloy, the better.

21020. It devolves on Mr. Cargill to speak out, and claim the early dismissal of infant pupils?—Thank you, sir, I am greatly obliged to your lordship, and the Commission for recording that; I don't think our little ones ought to be kept at school after 2 o'clock.

21021. Mr. Bunsen.—Is science taught in your school?—It is, sir, if you mean by science, please Mr. Redington, the elements of science.

21022. Do you take up as extra subjects any such subjects as mechanics?—We do where we can.

21023. You think that object lessons in elementary science would be useful in the lower classes?—I am perfectly certain of that. In other words, my contention is this—if I have not got it clear, I want to do so—suppose I were placed on this planet that I now inhabit, say twenty years ago in my lifetime, when I had come to the maturity of my powers,—suppose I had no knowledge whatever, I open my eyes to look upon it, I open my ears to hear it, I want to get this intellect of mine conversed upon the material objects round about as food for thought, and I want my powers of observation cultivated so that I will be able to make the most of the things of nature within my grasp. I want to get at facts first, and causes and laws secondly, and then I will be able to turn this universe of matter to no account for the best purposes and the highest ends, that I believe to be true education.

Rev. Hugh McMenamin, Adm. St. Columba's, Londonderry, examined.

Londonderry,
Oct. 26, 1887.
Rev. Hugh
McMenamin.

21024. CHAIRMAN.—You are the Administrator of St. Columba's parish, Londonderry?—Yes, my lord.

21025. How many National schools are you managing?—Seven. At Long Tower we have four schools, male and female senior, male and female infants, St. Columba's Hall school, Naniagh House, and Bridge-street.

21026. Have you any on the other side of the river?—No.

21027. Will you give us your views on the subject of kindergarten?—Kindergarten I regard as a subject of very special importance in the infant departments of schools, and not only in the infant departments, but I would say it is a mistake to drop kindergarten, where it is generally dropped now, at the second class. In some schools it is only taught in first class, but in some up to second, I would say, to have the practical ability of kindergarten brought out, it should be carried up into all the classes in some modified form. For instance, carry on the system of kindergarten drawing until you bring in freehand and object drawing, and geometrical drawing and model drawing, and in that way I think that education would be very much benefited in a practical manner. It is the experience of all in charge of it that it is very beneficial to children; every faculty they possess is exercised, moreover, the physical development of the children is brought out with ease and pleasure; it interests, amuses, and instructs the children; and, besides it gives the children to accuracy of eye and hand, and methodical habits also are acquired by it.

21028. Do you agree with an opinion which was expressed to us at Belfast with regard to the present teaching of drawing, that the freehand drawing, which takes up after an interval, has nothing to do with the kindergarten drawing, which has been taught before?—I do not, I would say that the kindergarten drawing is a great help to the freehand drawing afterwards, because under the system of kindergarten drawing the hand acquires a steadiness and accuracy which will be of great service in the freehand drawing.

21029. You don't agree with the opinion that was expressed, that a person who had never done any kindergarten could begin the freehand drawing with the same advantages as a person who had had instruction in kindergarten?—Certainly not. I would wish to give you a little local testimony to the advantages of kindergarten. In a large school in the city where kindergarten is taught up to II. standard, two divisions had to be made of the pupils of the same class, those who were taught in separate rooms—in one of the rooms kindergarten was taught, in the other it was not for want of apparatus. When the two divisions met in third class it was found that those taught kindergarten excelled the others much in intelligent answering on the subject-matter of the lesson-books. Their intelligence was developed and quickened. The other children, under an equally efficient and assiduous teacher, were dull and sleepy, and required much more repetition of instruction. And it is the experience, too, that children taught drawing in kindergarten methods have much greater facility in copying freehand—that is the experience of several teachers, it steadies the hand and hand-writing, because they have to be particular in laying everything on exact lines. It steadies the eye. They are assisted in arithmetic, having to count beads; half an hour is given to kindergarten each day, and to drill and singing once a week. A local male teacher who teaches that the children coming to his school from kindergarten schools get better marks from the inspector for reading in some of the advanced classes. Another male teacher, examining a class, was asked by a person standing by, how it was that some of the children answered with much more readiness and intelligence on the subject matter, and he said—“There come from a kindergarten school.” It is

found, too, that when kindergarten children come to the fifth class, when they are asked to write letters, and say what they saw coming to school, the kindergarten children have a much wider range of observation than the children that were not taught it. When they are asked to write a letter on what they saw coming along the streets, the kindergarten children hardly need anything, but describe it very accurately, whereas the children who have not been taught in a kindergarten school merely say they saw a cow on the street, or a dog or something of that kind, nothing more.

21030. Do you think that the teachers in the schools you manage are of the same opinion as yourself with regard to kindergarten?—Any teachers that I have applied to are in favour of it, not only those who are teaching it but those into whose schools it has not yet been introduced.

21031. Then you would not agree with the evidence of a gentleman in Dublin, a teacher put forward by the Teachers' Association, that he would rather have children straight from the gutter than children from a kindergarten school to teach literary subjects to?—I certainly would not. When I go into the kindergarten school I notice at once that the children there are bright and intelligent and observant, and when I go into a school where it is not taught, I perhaps had only a small number sitting in the front seat, counting their fingers or longing to see the hour for getting home. I think if a large fee were given for kindergarten the teachers would be stimulated, they would have more interest in taking up the subject, then the expense of providing the equipment, that is a difficulty in our schools, it is principally the Sisters of Mercy that have kindergarten here.

21032. Would not that be met by giving larger fees?—There should be a special grant to start with, and then a larger fee, but I think that to make the kindergarten useful as bearing upon manual instruction it should be carried up into the higher classes in the form of geometrical drawing and drawing with a rule and compass, scale drawing. I wish to say with regard to small country schools, where there would be only ten or eleven infants and only one teacher, I think the average for an assistant or monitor should be lower in those schools, and they should have a monitor or assistant there who would be trained in the kindergarten system, or where that would not be convenient, to have a workmaster in a country district in charge of three or four schools within a convenient radius, and let her go around those schools to teach the children in a mixed school under a male teacher, teach the little girls needle-work and also kindergarten, take one or two days each week, a competent teacher for a radius of two or three miles.

21033. With regard to the subject of agriculture, do you think that there is too much attention given to that subject in the city schools as present?—I think there is, I think that except the general principles of agriculture, such as any educated gentleman should be expected to know, for practical purposes it is altogether useless in city schools.

21034. What do you say about the teaching of it in country schools?—I think the teaching of it in country schools as at present carried on has no practical bearing upon agriculture as practised by farmers. I would say to have it practically carried out, where a central school farm for a district could not be acquired, there should be school nurseries of some sort of cabinet of specimens provided in that school, say specimens of different kinds of soil, grasses, and so forth, and let children be encouraged to bring those specimens with them, let their parents gather them and send them to the school, then the interest both of children and parents will be stimulated, and the parents will begin to get over the idea

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some of them have that they know more than any National teacher even about the theory of agriculture.

21035. Are you in favour of the plan of having school plots where possible attached to the rural schools?—I am, but I am afraid the acquiring of these plots would be attended with great difficulty. Wherever practical, by all means.

21036. There is a way in which the difficulty has been got over, where the Congested Districts Board has been at work, and that is instead of buying plots they hire the plot from somebody willing to let it.—Where that could be done I would be in favour of it, and, I think too, if the teachers somehow could approach the farmers themselves, and point out to them the utility of those principles of agriculture in a practical manner, it would have a practical effect.

21037. What do you say about the industrial programme for girls?—The industrial programme for girls was adopted in our Convent schools here for some time, but exemption from it has been obtained, for this reason, that it was only in the sixth class that the industrial programme became obligatory, and the class of children in our city here who remained up to sixth class are a class of children who are generally aspiring to be teachers or seeking higher situations, and the parents and they themselves consider that two hours a day given to sewing was not of practical utility, and, therefore, they found it was better to have it dropped.

21038. Would you be of the opinion, which has been expressed to us by some persons lately, that instead of increasing the number of hours for sewing it would be advisable to diminish them to three hours, and apply the two hours thus gained to some other kind of practical instruction?—I would, certainly.

21039. Would one of these subjects be cookery?—Yes, I should say so, but I am afraid that the introduction of cookery in connection with the school apartments is hardly practicable, I would go in for a central building where a special teacher would be and have the children from the different schools brought there in rotation and make it compulsory, because if it is left to their own option to go or stay, they will not go; the teachers should see that the children in certain classes would attend there in turns.

21040. Do you think that class of instruction would be better given in the evening?—I think it would.

21041. And you would have a special teacher?—I would have a special teacher.

21042. How would you have the teacher supported?—Well, a state salary.

21043. How would you have the materials supplied?—I think the children who were in a position or had the means to provide suitable materials should be asked to bring them with them, and then there should be some small grant given annually to assist the poorer classes in providing the materials, there should be some subsidy whereby sufficient materials could be procured.

21044. Would there be sufficient means of disposing of the materials after they were cooked, as has been done with considerable profit by the London School Board?—In course of time there might, but as first the thing might be more or less unpopular, but if it became recognised I am sure it would be of immense benefit, and become popular in a few years.

21045. Continuation schools in London &c. would be a good thing?—I think so, but we have tried continuation schools for boys who had not acquired sufficient education or who had to leave school, or perhaps some of them had not gone to school at all on account of some domestic circumstances, but we found that although the attendance at first was very promising, it soon fell off, and I think that arose from the fact that there was nothing of an interesting nature in the school, but the mere drudgery of reading, writing and arithmetic. I think

if there was something of a practical nature taught it would make the school attractive, and poor boys would acquire the knowledge of reading, writing and arithmetic, and perhaps a little manual training as well.

21046. Would you go farther and carry it on to woodwork as pursued under the Lloyd system?—I would where it could be done conveniently.

21047. Could it be done in Derry?—I am afraid not, except in some central establishment.

21048. In England where the Board schools prevail it is carried on in a central school, several schools send a class on different days to the centre?—I think that is the only way.

21049. Mr. Ransomov.—You are in favour of the appointment of peripatetic teachers of kindergarten?—I am.

21050. You think the workmaster as we have at present might be made peripatetic teachers of kindergarten?—If they got some training, if there was an organizer sent down and these teachers were asked to attend lessons.

21051. Would it not be possible to get the female teachers to learn how to teach kindergarten, and then to teach it themselves?—What I would mean by that peripatetic teacher is that it would be her business to roam local teachers in that particular branch and once they had acquired sufficient knowledge to teach it let her withdraw.

21052. Do you think there ought to be a specialist as teacher of agriculture?—I think so, to give a practical effect.

21053. Would you confine the teaching of agriculture to those schools that had school gardens attached?—I would not; school gardens are certainly preferable, but where they cannot be had let them go in for practical illustrations, gathering specimens of different kinds of soils, and seeds, and grasses.

21054. What would you think of a little elementary science?—I would be very much in favour of it.

21055. Would it be difficult to give a teacher sufficient instruction in elementary science to enable him to give simple lessons?—I don't think so at all.

21056. It would be very interesting to the pupils?—It would, and I think the teachers would readily accept it.

21057. Do you think the teacher of an evening school ought to be the teacher of the day school?—Well, I think it would be better not if other competent teachers are to be had.

21058. Do you think that the mode of payment in evening schools does not offer sufficient inducements to teachers?—I think it is one of the principal reasons why evening schools fall through, that the salary allowed is so small that the teachers, in order to be in some remuneration for their services, have to charge too large a fee to the pupils attending the school, and because of that, then, the children withdraw.

21059. Does it not rest with the managers to determine what fees are to be charged by the teacher?—Of course, if a manager charges a fee that would not be sufficient to remunerate the teacher the teacher would not take it up; if he subvented him out of his own pocket, or some other source, it would be different.

21060. If the results fees, or payment made by the State to the evening school, were sufficient to remunerate the teacher, there would be no necessity to charge a school fee?—No.

21061. Have you thought over the details of your regulations for evening schools, and could you suggest any modifications?—I should suggest additions to the subjects already laid down in the programme.

21062. Perhaps you would kindly send in a paper with your ideas on the subject?—Yes, I will have pleasure in doing so.

21063. As to the teaching of cookery in rural schools, do you think that is impossible?—I don't

think it is impossible; I think it should be adopted in some modified form.

21064. It was suggested to us, as a means of getting over the difficulty about the provision of materials, that the teacher, if her residence was near, might cook her own dinner before the pupils, and so give them a demonstration!—I think that would be very practical, and a step in the right direction.

21065. I refer only to simple cookery!—Simple cookery.

21066. Have you considered the question of forming associations of managers?—I have not considered it, but since I heard the thing mooted, I am inclined to be very much in favour of it. There should be an interchange of views amongst those managers, and I would say, too, that occasionally there should be a meeting, not only between the managers of the district, but between the managers and teachers, to discuss the subjects of practical importance for that particular district, and submit them then to the inspector, and the inspector to the Board.

21067. Then you would be in favour of this association being given liberty to modify the programme within such limits as would be approved of by the Board?—Yes—to suggest to the Board such modifications as in their judgment would be suitable for the requirements of the particular locality in which they live.

21068. And it may so happen that the Board would approve of these modifications for that locality only?—Yes.

21069. You think that would be an improvement on the present arrangements?—Very great, in certain districts, there are, perhaps, particular industries or habits of life which are peculiar to the district, and the teachers and managers could frame some system of education which would suit the requirements of the particular locality.

21070. Mr. MOLLON.—You testify, very strongly, to the great importance of kindergarten instruction?—I do.

21071. I quite agree with all you have said on the subject, but there is one point I wish to advert to—how would that be carried out by the teachers who were not familiar with the instruction?—I was very much struck with an observation made before the Commissioners by an eminent educationist in England, and I would certainly take his view. Sir Joshua Frick says:—

"We began, as far as kindergarten is concerned, by not teaching as a particular kind of training. We began by setting forth the thing we wanted to have done, and saying it should be encouraged, and dealing gently with teachers who were not quite prepared, but, at the same time, insisting on it in the training colleges." Sir Joshua Frick adds that the "English system is not to insist upon certificates for every subject that a teacher may be called upon to teach, but to give a general certificate based on the general capacity of the teacher, and then test his capacity in special subjects by the actual results of his work." I entirely agree with that.

21072. My question has brought out the statement that you rely very much on training colleges?—Certainly.

21073. As a matter of fact, however, in every female training college instruction in kindergarten is a *non qua non*, put in the same way as drawing is a *non qua non*?—Yes, but I refer to older teachers who were not trained, I would say to insist on their getting a certificate for a special subject would be, perhaps, a hardship.

21074. Are you quite clear that workmistresses

would be suitable persons to carry on the ordinary instruction in needlework and kindergarten?—No; I said if these workmistresses got a training from a peripatetic specialist.

21075. Would it not be better to have the ordinary teacher of the school sufficiently qualified to carry it on—it is sure to find a workmistress capable of imparting knowledge in a technical subject like kindergarten?—Of course, if you could get a male teacher to take it up in his school, by all means.

21076. CHAIRMAN.—In the case of a female teacher you would suggest that the female teacher should be qualified?—Yes, where there is a female teacher.

21077. Mr. MOLLON.—You say, attention in city schools is paid at present to agriculture; surely it is not introduced into city schools except very rarely?—It is taught in a good many city schools, but it is given up, I must say, in some of them at present.

21078. But you think that book-keeping is an essential for the city schools?—I think it is, and I would have it taught on more practical lines, more in the manner in which it is done in good business houses, and accustom the boys to all the business terms of banking business.

21079. With regard to the industrial programme, you mentioned that in Derry the shoemaking industry is carried out—so not that a trade?—It is a trade, but I would only in the schools teach them to use their hands and fingers in such a way, that when they went to the factory, they could apply them with more skill and dexterity to actual work; I would not teach them trades.

21080. You are not in favour of having cookery classes in the class-rooms?—If it could be done I would be in favour of it, but I would be more in favour of a great central establishment to which the pupils would come.

21081. That would be very costly; as a matter of fact we have in a number of cases cookery classes successfully carried out, and the whole plan is in the class-rooms. How is it that evening schools have not flourished in Derry?—For the reason I have already given, that the salary allowed by the Board for the teacher of the evening school is very small, and the results would be small on account of the class of boys that come to these schools.

21082. Were any attempts made to introduce evening schools?—I have tried it several years—at first we would have fifty or sixty, but in the course of time they would fall off, and I think chiefly because the fee charged was such that for the poorer class of boys it was made prohibitive.

21083. CHAIRMAN.—How much was the fee?—Sometimes 6d. a week.

21084. Mr. MOLLON.—Mr. Reddington pointed out that the manager could make a charge?—If the man aged had money in his own pocket to pay, but I do not happen to be one of those.

21085. Rev. Dr. WILSON.—Do you think the fee is the main reason why evening classes are not more popular?—I think it is not the only reason; I think it is because of the dull teaching of reading, writing and arithmetic to poor boys who have been working all day—it is a drudgery, but if there was something practical introduced it would stir them up and stimulate them.

21086. Rev. Dr. EVANS.—We have been over the whole programme pretty fairly now, Father McMenamin, but I think you are in favour of special examiners for kindergarten?—What I meant by that was that special peripatetic teachers should come round to organise and give special training.

Rev. EDWARD MCKENNA, P.P., Clady, Londonderry, examined.

21087. CHAIRMAN.—You are, I believe, the Parish Priest of Clady in this county?—Yes, my lord.

21088. Is Clady a part of the city or an outside parish?—It is an outside parish, a village of sixty houses.

Londonderry.
Oct. 16, 1887.
Rev. Hugh
McMenamin.

Rev. Edward
McKenna, P.P.

Lansdown.

Oct. 16, 1897.

Rev. Edward
McGee, F.R.S.

21089. Do you think that some alteration should be made in the time that is now devoted to teaching grammar?—I do, my lord.

21090. Will you tell us in what respect?—With your permission I would read my memorandum, as I cannot trust my memory much.—I think that the manner in which grammar is provided for is the great blot of the system, or one of its greatest blots, and I was astonished to find that there were in Ireland men thought worthy of coming before this Commission who could be capable of making so little of the study of grammar in our schools. One opinion was put before you that it should be shut out of the school till the sixth class is reached or second stage of fifth, that is to say, three fourths or more of our children, who never reach either of these classes, are to go out of school without any knowledge of grammar. Another opinion was that grammar should be made optional—that is to say, the teacher might omit grammar altogether if he chose. A few others in some strain followed both, and no doubt, with good intentions. I trust, however, for the honour of our country and the credit of our National schools, that the proponents of such doctrine will find that they have come before the wrong Commission. I look upon grammar, and so do the bulk of my more intelligent countrymen, as the crown of schooling in any spoken language in the world, because it is a precious part of it; and it is the crown of schooling in another sense, for, whether it be good or bad, it comes to the surface. Men who speak at the bar or from the pulpit, or in Parliament, may know Greek and Chaldean; but those who hear them speak don't know or care much whether the speakers understand these languages or not; but they do know very well when they pronounce incorrectly or speak ungrammatically, and so, our boys and girls may be able to find the square root of a fraction, or to tell you that the river Kama is a tributary of the Volga, but those who converse with these young people or receive letters from them don't know or care whether they know these things or not, but they can judge very well of their grammatical blunders in conversation or on paper. Now, how has grammar been treated in our present advanced and comprehensive system of primary education? The authorities have made it unwittingly I admit, the anathema of the school. In third class they give 2s. 6d. for a pass in arithmetic, and 1s. for a pass in grammar. They allow a time-table to be drawn up, giving a good allotment of time to every subject except grammar. The surprising statement of Mr. Weply, of Galway, in the last Report, confirms me in this. At page 189 he speaks of the way grammar is treated, not in one or two schools, but in "several" schools. His words are worth quoting, and here they are:—"Analysis of several school time-tables recently revealed the fact that, with almost unbroken uniformity, out of a school-week with five days, with forty or forty-five half-hour lessons devoted to secular instruction, two half-hour lessons were given in grammar, just as if it were an easy A B C lesson, but we all know it is far from easy." "The subject," says Mr. Smyth of Clonsilla, at 245 of the 60th Report, "is generally considered one of the most difficult in the programme." Mr. Fitzpatrick of Armagh, with two literary tastes, says at page 171, "No other subject shows so quickly and certainly the condition of a school as this one of grammar, of its educational value there is no room to doubt. At every step the pupil is made to think." What then are the remedies? The first remedy is, pay as high a fee for grammar as for arithmetic. The second remedy is, give as much time for it as for any other subject. I will ask no more, and, as an Irishman, and for twenty-six years manager of schools, I will never be contented with less. The third remedy is, teach syntax, or enough of it, before you begin to parse at all. For what does the present system say?—"Teach grammar in third

class a whole year without one word of syntax. Teach it in fourth class a whole year without one word of syntax." In the third class year—the first year for grammar—the child is taught to define the parts of speech, and to tell that such a word is a pronoun, such another a verb, such another a noun. In the fourth class, in second year of grammar, the child is made to tell genders, numbers, cases, moods, and comparisons. They can tell you such a pronoun is in a certain number and case, and such a verb is in such a number; but they are not asked to tell you why. To go on in this way would be simple parsing, and the word "simple" is appropriate in a certain sense in which we all understand the word "simple." There is not a word about concord or government; and after these two grammar years are over a parent can come to us and say what kind of grammar-teaching have you when my boy, that is two years at it, can't correct the sentence, "The men has got their dinner?" Our answer is—the rules of the Bened provide no key during these two years to unlock the mystery. I would, therefore, wipe out this simple parsing and do as Mr. McMillan, senior, of Wexford, recommends in 61st Report, page 210:—"In whatever part of the course English grammar is introduced, the study should begin with the sentence, and not with the word." The word work has been tried, and it has failed, none out of ten of the reports of the inspectors tell that "doleful lamentation," Let parsing, from its very beginning, be guided by syntax. Without syntax the parsing is like the pump without the handle. What the handle is to the pump syntax is to etymology; as the rudder is to the ship so is syntax to the rest of grammar. If I am told "you want to get too much into the child's head at once," I answer, no; let the time the child loses at simple parsing be saved for syntax. Keep back parsing, if you like, for the first half year of the first grammar year; and in that half year the child will know a good many things about etymology and syntax also. If I am told that syntax is the heavy end of the beam, I deny it and say it is the lightest and joyous part of the work, for it enables the young parser to marshal his forces, and to command this or that word to change its form if it needs to be changed. Besides, syntax is brief. Sullivan has only eleven pages for it, and he has ninety-three for etymology. Of the twenty rules of syntax in Sullivan, only a few are useful or operative for starting a child with.—A verb must agree with its nominative. Transitive verbs and prepositions govern the objective case. Two or more nouns in the singular, joined by a copulative conjunction, require a plural as and-so, and the rule about the verb "to be," will guide a child to much. These five or six, and more, could easily be got by heart, in addition to the earlier part of etymology, in six months. The rest could be got off by degrees without occupying. In this plan all the grammar children could stand up together, in one class—the stronger could help the weaker by their better answering; and the classes would be greatly relieved by the amalgamation. The fourth remedy is—take five minutes each day from the school time, so as to provide, so far as you can, a grammatical atmosphere in the school. How is this to be done?—It can be done easily, by introducing what I will call "phrase grammar." Let the teacher draw up twenty ungrammatical home phrases. Let him announce them to all the children in class, large and small, to those who know grammar, and those who do not. Let him say to the children—these phrases are wrong in grammar, and I will tell you how to set them right, and when I have told you class you will tell me in a clear, loud voice, the right way of saying them.

"The nights is getting longer."

"No, sir, 'the nights are getting longer.'"

"Soldiers wears red coats."

"No, sir, 'soldiers wear red coats.'"

"He gave apples to him and I."

"No, sir, 'he gave apples to him and me.'"

And so on. For sake of variety and utility these should be a new score of such phrases every new quarter. This kind of our grammar will, I grant, overcome the habits of house surroundings, but it will do great deal in that line. It will even help the paring classes, and will help the children who will never get learning book grammar at all. The right words imprinted on their tender minds will remain there in after life. I have known young coachmen and housemaids, who were never at school, pronouncing so well, and speaking so grammatically that you could scarcely detect three errors if they were talking to you now and then for a twelvemonth. Why? Because their masters and mistresses and their children always spoke grammatically. Head-Inspector Downing, at page 122, says very truly:—"It is merely necessary to consider the value of the acquisition of a child of the better class at seven years of age." Why did he say so? Because that child that knew not a line of grammar heard pure English spoken, and therefore speaks pure English from imitation. The fifth remedy is—take another five minutes, not for grammatical phrases, but for correct pronunciation and for what I may call propriety of expression. Let the teacher draw up a list of ten or more mispronounced words, in little sentences, such as:—

"The little got out of the tyre."

"No, sir, 'the little got out of the tyre!'"

He should fill out the twenty list with words or forms of impropriety, such as:—

"He learned me to play marbles."

"No, sir, 'he taught us to play marbles!'"

"I and Harry got new shoes."

"No, sir, 'Harry and I got new shoes!'"

The phrase grammar lists should show all the concord and government, and vary in new forms as well as possible, and so should the pronunciation and propriety list vary also. These lists should be sent to the inspectors for approval, in order to guard against anything denominationally offensive. I have now taken ten minutes off the time, but no ten minutes were ever better employed in any school. Without well-taught text book grammar, and these helpmates of grammar our children will go out from our schools in a garb that will be very unsmooth. They will be like the strongly-framed mahogany table that is not smoothed by the plane or finished by the polisher—a table that nobody would like to buy. I saw this ear-teaching exemplified by an inspector. The children signed the grammatical expression in their table-books, and said "twenty-four pence is two shillings." He set his face firmly against it, and now there is not a child, whether it knows grammar or not, will say "2 and 5 is 7," or "4 from 7 and 3 remains;" but "2 and 5 are 7"—"4 from 7 and 3 remains," and that inspector is Mr. Brown, of Londonbury. Mr. Coddington, of Rosemoore, supports me in this. At page 150 he says:—"So long as grammar continues to be taught without reference to the language the children themselves use in speaking and writing, so long will it remain unattractive, and in a large measure unproductive of practical results." Head-Inspector Farley, 201, says the "instruction is not sufficiently practical, as is evidenced by the circumstance that a scholar will parse both poetry and prose correctly, and yet in his composition expresses full into the grossest mistakes." Our children and our people should be freed as soon as possible from the fives of the English-speaking world in this grammar test of our education. Is it any wonder that the want should come to us from

America in the dialogue between an American woman and her servant? One of our Irish girls says one day to her mistress, who has got good schooling: "Mum, them tomatoes has a bad smell." "Yes, and your grammar has a bad smell, and so has the schooling you got." "Oh, mum, I was taught lots of grammar, for I was two years at it in Ireland; but, indeed, I was never taught to speak it." "Yes, I see, you were taught grammar in Ireland, but you were never taught it. Take the children out for a walk, and if you don't speak more correctly to them than you did to me I will have to send you down to the kitchen, and try to get a housemaid that will be able to express herself a little more 'grammatically.'"

21091. Have you given any attention to the subject of manual instruction in schools?—I have given a great deal.

21092. Will you tell us your views on it?—I am afraid you will be tired of me by this time, but I will ask your leave to read again, because I cannot trust my memory.

21093. Would you hand the paper in, perhaps, and tell us the substance of it?—That would make a mass of it; it would be no use. It is too much detailed and carefully drawn up to be taken piecemeal.

21094. Rev. Dr. Wilson.—I am very glad to meet a champion of grammar, such as you are. We have met with any amount of evidence to go to show we should not touch such grammar—I know that; I saw it with very great regret, and, I would say, with lamentation.

21095. Well, I largely sympathise with your views.

Rev. Dr. Evans.—We were delighted in listening to the most admirable paper you have read for us; and I congratulate the people of Clandy on having such a parish priest.

Witness.—There is another thing—this would take as long to read as that, and, therefore, it might not be feasible. I am now a quarter of an hour under examination. I would like to speak of the drawback of your system with regard to writing letters and making out plain accounts. I venture to say that when a child has gone out of sixth class even, that there is not one out of ten can write distinctly the form of a plain account; but, with regard to children up to fifth class they know nothing whatever about writing letters. Now, that is very painful, with such great machinery as we have. I told yesterday at my own school what the children could do in making out a plain account of the very lowest class. And I say if they make out a plain account and write a short letter that they will be trained in a way that they can write these letters at home. There is my idea make out a plain account, with its headings and footings, of which the poor children are absolutely ignorant when they leave school (produces specimens).

21096. CHAIRMAN.—Is this what has been done by children in your school?—That is the fourth class, and then the poor little children of the second class have done the same thing. But I would say that the National Board should make it imperative in all schools that a simple letter should be written, and a simple plain account written out by every child in third and fourth class, and I would even go so far as to say in second, and I would say also that the Board should take the trouble of writing on the left-hand side the copy of a plain account, and leave the child to write on the right-hand side a copy of that, and if they had that and got thirty plain accounts and thirty little letters in one year, even the lowest class will have done a great deal.

Londonbury.

Oct. 15, 1881.

Rev. Edward McKenna, &c.

Mr. JAMES ROWAN, Teacher, Killymollaght National School, Londonbury, and President of the Londonbury Teachers' Association, examined.

Mr. James Brown

21097. CHAIRMAN.—You are the Teacher of the Killymollaght National School, Cullin, in the county Londonbury?—Yes, your honour.

21098. Is that a rural or a town school?—A rural school.

21099. Do you speak in your own behalf, or do you

London, 1897.

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Mr. James
Boswell

represent any other teachers?—In one sense I represent other teachers, but I just speak on my own behalf as a teacher of a rural school. I believe I express the mind of a great many teachers similarly circumstanced to myself.

21109. We will begin with cottage gardening, what are your views on that subject?—I think there should be a small plot of ground attached to each school, where cottage gardening could be taught practically.

21101. What size would you suggest?—I would not limit it to any particular size, for putting a limit on a certain plot sometimes prevents a plot being got. I would say a road would be necessary, but I would work with less if that could not be got.

21102. You would not think that two acres would be suitable?—I would think it rather too much.

21103. You think that anything exceeding half an acre would be too large?—I would limit it to half an acre.

21104. Do you think there would be much difficulty in acquiring it in the way the Congregational District Board has done, by renting it from a neighbouring farmer?—In some circumstances that would be possible, but not in a great many.

21105. How would you acquire it in cases where that is not possible?—I think there are compulsory powers in the Act to give sites for schools and teachers' residences.

21106. But if there was no case of building a new teacher's residence, probably these powers could not be exercised, in such a case as that you would have to fall back upon renting?—Yes, but it would be very difficult to get it.

21107. Unless you got it by agreement?—Yes.

21108. Would it be equally difficult to get it by purchase?—It would be more difficult, many farmers would not like to sell a bit of their farm, they would rather add a little to their farm than sell a bit of it.

21110. Perhaps you would give us your general ideas upon the subject of the cultivation of fruit and other matters which you have in your memorandum?—I think in this plot of ground I would have attached to each school that the ordinary common vegetables that are capable of being cultivated in that neighbourhood should be grown, and the ordinary fruit trees such as are suitable to be grown in that exact locality should be grown. I think the children should be instructed in more than the names of vegetables, they should see them growing, and be trained in the time to sow them and plant them, and their treatment afterwards, and have a practical illustration of plain cottage gardening.

21111. Are you of opinion that poultry-keeping and bee-keeping should be taught?—I think where there is a garden like that attached to a school the like of that should be attempted.

21112. You would not think that poultry-keeping and bee-keeping, the teaching of the arts of keeping them, are educational in the same sense as the teaching of gardening would include botany?—Not just in the same sense, but very educational, training them to thrift and carefulness in after-life.

21113. Would you say that flowers should be cultivated in connection with schools?—Certainly, I think the taste for flowers should be more widespread, that flowers should be cultivated in connection with Irish cottages, as in other countries.

21114. It has been suggested by one of our witnesses, that it would be a good thing to give pupils whose parents would allow them gardens near their own homes, prizes for the successful cultivation of flowers and plants?—I think it would be a good idea; in localities where gardening societies have given prizes, it has much encouraged horticulture among the cottagers, and flowers might be distributed by the teachers at certain seasons among the pupils.

21115. Do you teach drawing?—Not myself, it is taught in my school.

21116. Who is it taught by?—An assistant teacher.

21117. Is he certificated?—Yes.

21118. Do you think that drawing should be taught in all the schools?—I do, decidedly.

21119. How would you provide for the teaching of drawing, where there was only one teacher, and that one teacher either had not a certificate or had no practical knowledge of drawing?—I think a great many teachers have a practical knowledge of drawing, and a great many teachers can draw well and have no certificate.

21120. And you think that those who cannot at present draw, might acquire some knowledge of drawing?—A great many of them could.

21121. At any rate, if they could not acquire free-hand, they could acquire the art of drawing with a rule and compass?—Yes, mechanical drawing.

21122. Do you think that elementary science should be taught in rural and town schools?—Yes, your lordship.

21123. Will you explain what you mean by elementary science, what branches of education do you include under the term?—I would first, I think, begin with mechanics in connection with the drawing, and then I would certainly have a little chemistry, then I would assess those a foundation for science in connection with agriculture, and also domestic science and domestic economy.

21124. Do you think that elementary chemistry could be taught unless the children were allowed to have a hand in making simple experiments?—I think it would be well to have them make simple experiments for themselves; of course it would imply a separate room, and in many country places there are no separate rooms.

21125. But if a room could be acquired?—I certainly would—that is, of course in the higher classes.

21126. What do you say about practical measurement as a separate subject?—I think it is a great pity we cannot teach measurement to grown boys without getting them to learn geometry. I mean that we should teach measurement practically, that is what will be useful to them in their future life. The teachers of all rural schools are greatly troubled with farmers asking them to survey for them. Supposing they were going to sow a field with flax seed or some seed that requires a particular quantity for a particular measurement, they have to go for the teacher to lay off that amount of land. I think it is a great pity that boys could not be trained to do their own measurements. The teaching of the thirty-two propositions along with it in many cases prevents the boys being taught it, except the teacher out of generosity enabled them to get some knowledge of it.

21127. Are you in favour of household management being taught to girls of the sixth class?—Yes, your lordship.

21128. I believe you think that the present programme might be considerably lightened?—Yes I believe it might.

21129. In what direction would you lighten it?—I would commence with arithmetic. Arithmetic, as at present taught, swallows up almost everything else, requires twice as much time and attention to be devoted to it as any other subject in the school programme, and I would give the pupils as much practical knowledge of arithmetic with half the time and half the attention, supposing that it was examined in the right manner, supposing that the questions they now give on their cards were framed in a more practical way. For instance I would not ask them to understand correlating decimals and the theory of them. I would think it far better that they would calculate the price of so many ewes at such a price. Of course, I would teach the higher arithmetic as an extra subject to those boys who

would desire to learn it, and make it useful according to what they are going to do afterwards.

21130. What about grammar?—I think grammar could be lightened; I don't see why we perse as we do at present. I would not like to stop teaching grammar, and I would introduce it as early, but I would make it easier, the programme for senior fifth might do for senior sixth at present; that would be quite enough grammar for a boy going to college or into a profession afterwards.

21131. When you are teaching grammar, or, indeed, as any part of your teaching, if you find a child using an ungrammatical expression do you correct him?—Certainly, your lordship. I believe every teacher corrects an incorrect expression immediately when he knows it.

21132. What do you think about the teaching of geography—as what you could that be lightened?—I think it is very unnecessary, at least as a great many cases, that children should be taught rivers, populations, heights of mountains, and lengths of rivers, and names that they will never meet except in a text-book. I think it can be taught practically with maps and geographical readers, and lessons in lesson books. It would be more interesting and useful, and save a good deal of time.

21133. What steps would you suggest should be taken to secure better and more regular attendance at rural schools?—I have been thinking what steps would be most likely to succeed, but I must say I am at a way for it has compulsory education in rural districts as well as cities.

21134. Supposing that you had a long and severe course of bad weather in winter, do you think that you could compel children to come two or three miles through the rain to school?—That is out of the difficulties. I have not entire faith in compulsion. It would have to be greatly modified.

21135. I may say in one instance in England—a place near Harrow-in-Purness, where children had to come across from an island—their attendance was caused entirely in the depths of winter, and that was found to be necessary?—It might be modified to suit the rural districts in Ireland largely, but I would apply compulsion in cases where there were families growing up in the neighbourhood of a school, quite close to a school, and one of them never enters the school-door. I think in that case there should be compulsion.

21136. What are your views on the subject of inspection as against separate examination?—I think that the result system, as it stands now, is one of the greatest evils we have in connection with Irish education. The first thing I would say in connection with it is: that it is quite unfair to both teacher and pupil. It supposes as a start that all pupils have equal capacity, and we don't find that that works out well. Then we are constantly dipping at the dull pupil at the expense of the bright pupil.

21137. That is your opinion?—That is my opinion, and the practical experience I have had of it.

21138. Do you say that that is the result of your experience?—Yes, my lord.

21139. Some people, I think, say that the result of that sort of examination is the other way. Your experience is that it devotes more attention to the dull boy than to the bright boy?—Yes.

21140. Do you think that that arises from the way the system is framed—namely, that examination is combined with the number of attendances? Unless a pupil has made a certain number of attendances he is not examined?—I don't think it has to do so much with attendance. I am supposing the case of two pupils that have qualified by attendance for examination, and I think the dull boy receives far more than his share of attention to enable him to pass the examination. It is not, as has been so often stated, that teachers look to the money made, but our standard as teachers, even in our own neighbourhood, is judged by the number of passes we have.

21141. I suppose in the case of examinations in primary schools a pass is a pass—they are not graded?—We have them graded, but not in the payment.

21142. Do you think that if the payment was graded, as well as the passes, that then the temptation to the teacher would be the other way, and he would strive to get as many first-class passes, at the expense of sacrificing the third-class passes?—He is striving to get as many first-class passes as he can, but, unfortunately, sometimes he is thankful for a second-class pass.

21143. Do you consider that some reward should be given for order, cleanliness, discipline, and general efficiency in the school?—Yes, I do. I think those are the things that mark a good school from a bad school, and the good teacher should receive some recognition above a mediocre and bad teacher. Any inspector of experience going into a school sees at once the style of the school, and I think it should be rewarded if it is up to a certain standard.

21144. Mr. RUSSELL.—Do you think that drawing should be taught in schools of which the teacher has no certificate?—Yes, sir.

21145. Would it be fair to the pupils that an incompetent teacher should teach drawing?—No, I would not have it; but I believe that there are teachers who have no certificate who are competent teachers of drawing, or could easily make themselves so.

21146. Would it not be right that they should give evidence of competency?—I would have it in the results of the teacher's work.

21147. So that during the first year you would take choice as to whether they were competent or not?—I would.

21148. Would it be unfair to ask them to give proof of competency, either by passing an examination or by showing that they had a certificate from some other body?—No, I think not, but where men have reached a certain age—for instance in my own case—I would not like to go to a centre to get a certificate in drawing. It would be looked on as a disgrace if I went to a centre and failed.

21149. But you would not be allowed to teach any other subject unless you got a certificate?—The percentage for drawing is very much higher.

21150. You would not be allowed to teach arithmetic unless you got 20 per cent.?—No.

21151. Why should you be allowed to teach drawing if you could not get 20 per cent.?—I believe there are many teachers who could get 20 per cent., and yet have never bothered themselves about it.

21152. Would it meet your difficulty if you were to give evidence to an inspector of your capacity to teach drawing?—Yes.

21153. Would it be easy to teach elementary science in a rural school?—No, because in many schools we would not have many pupils, and it is necessary to have a separate room, and the expense would not be compensated for by the number of pupils who took it up.

21154. Is it necessary to have a separate room?—Well, no.

21155. Besides the question of the cost of apparatus, is it difficult to get teachers qualified?—Yes, it is both, but it would be easy to get teachers qualified. I believe in certain centres there should be a demonstrator of science, and this man could give the teachers from the different districts model lessons on Saturdays, and show them how to start their pupils. A few lessons would enable most capable teachers to go on with it.

21156. Would it be possible to give these lectures on the evenings of other days as well as on Saturdays?—I don't think it would, on account of the distances.

21157. I suppose you would agree that the teaching of elementary science would be interesting to the pupils?—Most interesting.

21158. And the teaching of it should be practical?—Yes, I believe so, experimentally.

London:Err.

Oct 15, 1882.

Mr James Brown.

Londonbury.

Oct. 18, 1887.

Mr. James

Roche.

21159. Have you any criticism to make on our present science programme?—No; only there is a fee of 2s. attached, and that would be a difficulty in some cases.

21160. To whom?—The pupil. He has to pay a fee of 2s. to the teacher. I am not much interested in it.

21161. Under a rule of the National Board?—Yes; that was a rule of the National Board.

21162. There is no such rule now?—It may not be now; but it was at one time.

21163. If the pupils were allowed to attend without a fee—do you see any objection to the science programmes from any other point of view?—No; only that it is too difficult. There is far too much science required from the children. The syllabus should be drawn up on much milder lines. We do far too much, as we do in other subjects—reading, for instance.

21164. Is the Compulsory Act in operation in Londonbury?—Yes; but not in the rural districts.

21165. Mr. Mettler—Would you briefly indicate the character of your school?—It is a rural school.

21166. How many classes in it?—Nine, of course.

21167. That includes the sub-divisions of fifth and sixth?—Yes.

21168. What is the teaching staff?—Principal, assistant, and mistress.

21169. It is a mixed school, then?—A mixed school in a purely agricultural district.

21170. How many in the senior division of the school?—At last examination forty-one were examined in the junior, and thirty-nine in the senior, but that is an extraordinary high percentage of senior pupils.

21171. What is the total number on the rolls of the school?—About 106.

21172. Then it may be characterised as a more than usually advanced rural school?—Yes; the senior division is unusual, I think.

21173. What extra subjects do you take up in your school?—Drawing, book-keeping, and then we had algebra last year.

21174. Geometry?—No.

21175. For a school of that kind would not the elements of agriculture be more important than book-keeping?—We have it, it is compulsory in our school, but book-keeping is not.

21176. You expressed the opinion that a teacher devotes a good deal of his attention to the dull pupils in connection with the results examinations?—Yes.

21177. What is your definition of a dull pupil?—as one who did not attend very well, one not likely to make the days?—No, one that has not the natural capacity to learn as quickly as the others.

21178. Is it your experience that these prevail largely?—Indeed it is, I am sorry to say.

21179. May I ask your classification?—First of first.

21180. And trained?—No, sir, untrained.

21181. Would you approve of a third-class teacher who was very efficient getting a higher rate of payment in the salary for the carrying on of his school as compared with the present system?—Considering he would do it efficiently.

21182. Yes, with a high degree of efficiency?—I would not, sir, without classification. I think the man that would be capable of doing the business would be capable of qualifying himself for classification.

21183. Are not a great many third and second class teachers very efficient, even though they were not able to attain to that degree of scholarship that would qualify them for first of first?—Yes, I have reason to believe that there are a great many of them efficient teachers.

21184. And these receive a much lower remunera-

tion as a whole, having regard to their disqualification?—They do as regards their fixed salary, but not as regards result fees, they are equal to us there.

21185. In your own case, what proportion does the fixed salary bear to the result fees earned in the year?—Do you mean the result fees earned by the school, or my share of it?

21186. I would rather take it by the school?—About, I would say, as twenty there is to eleven.

21187. In your own case personally now, spent from the school?—About as fourteen to five.

21188. You are in favour of compulsory attendance even in rural schools?—Yes, some modified system of it.

21189. Ordinarily speaking, the National schools are open 210 days in the year, and under the Compulsory Education Act, where it is in operation, 180 attendances are expected—that is 75 one half year and 75 in the next. Do you think in rural places that is excessive to expect?—I think not, there are at present 260 school days in the year—the average for my higher class is 190 attendances, and that leaves them 110 days at home, or taking five days to the school week, that is about 22 weeks they are absent in the course of the year. I think that is amply sufficient for any farm work, such as harvest or sowing work.

21190. Amongst the other subjects that you said you taught was algebra as an extra; have you any observation to offer on the advanced character of the algebra required in third year course?—I believe it is too difficult. I never teach the third year, I stop with the second year; the programme is prohibitive.

21191. You also think the arithmetic might be diminished in some respects?—It should be made more practical.

21192. What would you think of an inspector not using cards at all during the examination, and proposing questions when he arrives at the school?—So long as we are to have mechanical examination the cards are the fittest; it ensures that each school will get the same questions, and there are a certain number of questions always given, and it is easy to check how many are done correctly, and if it is a mechanical thing it is better to have a mechanical test.

21193. Why would you call it a mechanical thing?—Because we are trying to work the school as a machine largely. It is a machine from beginning to end.

21194. A machine for what purpose—for the education of the children or to earn result fees?—To keep up the standing of the school, by counting the number of passes at the end of the year, that is how we are judged as teachers.

21195. Would you not also say it is the great ambition of the majority of teachers to work their schools from an educational standpoint?—That is what we would like.

21196. Would you not say that is the object?—I believe, with the great majority of teachers, they attend to education as part of the machine. Any teacher of experience understands perfectly that if he neglects the education of his pupils entirely he cannot have them as they should be.

21197. But by education you mean mechanical instruction apparently?—No, I do not; I mean, besides, the cultivation of the intelligence.

21198. Would you not say that the National teachers generally, throughout Ireland, aim at the object?—They do.

21199. Then why do you call it a mechanical system?—Because the examination is mechanical, we must work it according to the system.

21200. Then if some modification took place in the mode of examining the school, more impromptu and less mere examination, it would meet your point?—Yes, I might remark the teachers are far superior to the system; we don't teach it as we are expected to do.

21201. Believing that myself, I asked the question whether the great aim was not of an educational character?—Of course it is, we want a clear field for educational instruction.

21202. Rev. Dr. WILSON.—I suppose your observation has led you to think that the attendance is rather irregular?—Yes, doctor, most irregular.

21203. And, therefore, you would be favourable to compulsory attendance?—If no other means could be devised.

21204. You supposed the case of a family that lived near a schoolhouse, and not one of them entered the school door?—Surely there is very little of that in your experience?—Very little, but we have some cases of a family living, perhaps, within a quarter of a mile of a school who will come to school, and one member of that family will never qualify for examination, they will leave school, and be finished, as they say, without ever being examined. We have cases of that, I believe, in every locality.

21205. You would agree to lighten or shorten the programme of literary instruction?—Not very much, I would not take off any subject, but I would lighten the three subjects, curtail them a little.

21206. In face of the evidence that our friend KILMER McKenna has given about grammar, you would not press it to the extreme?—I would have his grammar as he explained it. For instance, we heard of a grammar exercise to do, "Woe worth the case." I don't believe in asking boys to parse puzzles.

I believe in asking them to parse an ordinary sentence, and even to analyse an ordinary sentence, but not business in not to teach them to parse a puzzle easily.

21207. But you would like to have the opportunity of teaching the cultivation of flowers and the cultivation of fruit?—Decidedly.

21208. You practically would go in for the form of instruction we aim at?—I would cultivate intelligence in every subject and everything.

21209. Does the National system from your experience tend to develop the intelligence of the child or to cramp it?—I would not say that it tended to cramp it. I believe in most National schools we lay the foundation; if the teacher knows his business, as the majority do, we lay a foundation that causes the child to seek to educate itself. That I consider the highest type of education.

21210. Because we have had information that no matter how glibly a child is able to answer questions put to it from a book, that if you put any question outside the book there is the greatest ignorance?—Would you like my opinion on that?

21211. I would?—I have a decided opinion against that. I believe we try to cultivate their intelligence—we could not get them to answer every question on the page of the book if we did not attend to a limited extent, it may be, to the education of the child to cultivate its intelligence, so that it can be "crammed," if that word is to be used.

Mr. WILLIAM PATTERSON, Teacher, Carlisle-road National School, Londonderry, examined.

Mr. WILLIAM PATTERSON.

21212. CHAIRMAN.—You are the teacher of the Carlisle-road National School, Londonderry?—Yes, my lord.

21213. I understand that you were a member of the Teachers' Congress appointed to inquire into the subject of manual and practical instruction in National schools which met last Easter in Galway?—Yes, my lord.

21214. I further understand that owing to the vast of evidence as to what was exactly meant by manual and practical instruction, that committee came to no definite conclusion?—Nothing definite. I might remark here that there was a wrong impression among many of them from the manual training given in the Central Training Colleges as to carpentry work, quite a number of them thought that was about to be introduced into the schools, and did not think it practicable, and seeing that some of them were inclined to oppose the matter, they finally came to the conclusion it was better to leave the matter an open question.

21215. Do you think that the teachers generally would be prepared to welcome a change if they thought it was better and for the good of the country?—I would certainly say the teachers would receive it in the best spirit and give it every trial if they can be convinced it is for the advantage of the country.

21216. First I will ask you what your opinion is upon the subject of agriculture as taught at present in the primary schools?—It is principally book work.

21217. And what do you think about it?—I think as far as the mere book work, it is of very little value except it goes into practical work.

21218. In what form would you suggest it should be done?—When I taught a country school, a good many years ago, I had half an acre of a garden; it would produce nothing, there were large ash trees growing round it and extending across the garden, I had a trench cut right round, had men to cut it in winter, and in time got it a good garden.

21219. What did you do with the ash trees?—I left them there, only cut the roots.

21220. Would it be a good plan if a school plot were attached to every rural school?—Yes.

21221. Would you say that half an acre would be a good size?—It would be a fair average size.

21222. A complaint was made to us by a teacher, I think in Sligo, as to the difficulty of complying with the Board's regulations with regard to the teaching of agriculture on account of the state of the weather. He said that last year there were a great many days on which, owing to the continued rain, it was hard to comply with the rules, and he seemed to think that if a teacher was allowed more latitude as to the days on which he should take his school out to the plot, it would be better?—I think there should be a little latitude in that. I know when I had a school garden I took the children out just as the weather answered, and my memory does not carry me back to any difficulty.

21223. Mr. RUSSELL.—Did you ever hear of school fees for practical agriculture being disallowed on that ground?—No, sir, I never did.

21224. CHAIRMAN.—What are your views on the subject of the teaching of physical science in school?—I think physical science is about one of the most practical and useful things in a school, I taught it for a great number of years until the law. I grew weary.

21225. Why did you give it up?—I have not given it up, but 1893 was the last time I taught it for routine examination. There were two reasons, the Board has ruled that each child that is taught physical science must pay 2s. per quarter to the teacher, and the examinations were not on practical work.

21226. CHAIRMAN.—You were teaching under the Science and Art Department?—I am teaching under the Board the day school pupils the Physical Science programme of the National Board, but I have taught under the Science and Art Department for a great number of years. That is, you could not get from all the children, but now that education is free, when I have to charge the children 2s. for these subjects, while all the other subjects are free, parents cannot understand it.

21227. What do you conceive to be the main use of science teaching?—If taught properly the children used hand and eye and brain; it trains the three faculties. Last night I had a class of physical science, and the work I set them to do was to make a

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zinc and prepare for making electric batteries, mixing acid, water and zinc, to make hydrogen gas, and set fire to it—a very easy matter.

21229. I believe that there have been some changes in the rules of the Science and Art Department as regards grants for teaching science.—When I commenced to teach science first I joined a science class, and when I got certificates in 1848 and 1849 I taught science classes in Stephens and Denagel. I taught from 1870 to 1880; then the Science and Art increased the regulations and adopted new rules, and those classes now have all dropped. In that year science grants were only made for schools whose total income amounted to less than £100 a year, then they raised it to £300, £200, and £500, and now they have abolished it. The grant of the Department is now confined to Organical Science schools in England, and the people it was originally intended for have ceased to get anything.

21230. How much do they give in England altogether?—Last year £202,000, and I think this year it is much more. In Ireland it has fallen from £5,500 to £3,500. The total science classes in Ireland last year were 140, and there are 3,100 in England. This year the science classes will probably not amount to 100. I may observe that while science instruction is rapidly increasing in England and Scotland, it is decreasing as rapidly in Ireland.

21231. What remedy would you suggest?—I think the standard of the Science and Art Department up to 1870, or from 1870 to 1880, was quite high enough for the class of boys who attend these evening science classes. Teachers saw it was practical, that they were able to teach it, and they took it up largely in the country. The first experience I had of science classes after I got certificates was in a rural school. I gathered a number of country boys about me and they almost all passed, and they were quite pleased with themselves.

21232. Did you allow them to try experiments themselves?—Yes, the experiments were not so much practised then as now. I taught it largely from books, and when I began to look at the teaching we gave before we knew what a *Leyden jar* was, I don't know that I could teach it now on that system. I think it should be taught practically. I was in London this year and met teachers from all parts of England and Scotland; I think I was the only Irish National teacher there, and when I was over there in 1872 to 1880 we were in the majority; the Irish contingent was in the majority, now we are nowhere.

21233. What have you to say upon the question of needlework and the sewing machine?—The sewing machine is a very practical thing for Derry, and it was taught in a number of schools until the Board backed on advanced dressmaking. The teachers found that they could not teach advanced dressmaking and sewing machine at the same time to the fifth class girls, and they dropped it.

21234. They kept to the sewing machine?—No; to the ordinary boy's needlework in the school, and dropped the sewing machine.

21235. Would you be in favour of keeping the present hours or reducing them?—I think the sewing might be curtailed a little, and give us two or three hours for some useful practical work.

21237. How would you suggest that the present programme could be modified, and the subjects made more practical and interesting?—I think the algebra and Euclid might be reduced considerably, and it would not be much disadvantage if they were disallowed in first stage of fifth, and something else more practical taken up instead, and with the metric system and decimal system introduced in some slight way in the junior classes, and prepare for what I expect is coming, and by these means compound rules would be largely done away with. By giving the children rules to draw with, centimetre marked, it might be introduced a little. In fact, I am trying to introduce it a little.

21238. Do you think that mensuration should be made a separate subject?—Yes, and made practical.

21239.—Taught with the ruler and tape-line and chain?—Yes, and if you want advanced arithmetic, the square and cube root should be added, as you cannot teach mensuration without the square root.

21240. Are you of opinion that there is any use in cube root?—Very little, we teach it because it is in the programme, and if you teach it, and a month has gone by, the boys don't know it, and you have to begin over again.

21241. How do you think reading-books could be made more interesting?—I have looked into that, I have had all the reading-books I could by my hands, got them from Blacks, Longmans and Nelson, but I have kept to the Board's. They are every objectionable—the difficult phrases in the Board's—but there are more objectionable things in others, and I think the Board's best until we get something better.

21242. You think writing in simple language is an art?—Yes. The other day, after reading a description of Concomers, I asked a boy to pick me out a sentence he would like explained. The boy immediately picked out the sentence: "In Concomers the formation is different, for instead of the plains of granite and quartz, there extend platforms for the most part, sandstone." He wanted to know what granite, quartz, and sandstone were. I happened to have samples, and I explained them. I don't know that he understood it, but there was the thing practically. I told him, where he could get quartz and granite very easily, and the sandstone was in a stoneyard close by. In the Sixth Book there is an article on casts of shells and ammonites, which seems rather difficult, but you can easily get specimens. I picked up a cast of a shell at the Curlew, and I got quite a number. I thought it was a great prize I had got, but an old man said he could show me better than that, and he produced an article from his pocket. It is one of the best ammonites I have ever seen. "What do you want for it?" said I. "I think," said he "I should get 3s. 6d. for it." I gave him the half-crown, and brought it with me. I think a school should have a small museum. I have a small one.

21243. Should reading books be illustrated by diagrams, and would it be an advantage to teach simple lessons in physiology, hygiene, health, cleanliness, &c.?—Yes, I think it would be very useful, lessons running from first to last right through the books.

21244. What do you say about the amount of grammar and geography taught?—I would not put them out of a school, but I think they could be reduced and made less formidable than at the present time.

21245. Is book-keeping a useful subject?—Very useful in a town school, if well and properly taught.

21246. Now, I should like to have your views on the subject of drawing?—I think drawing is one of the most useful subjects we teach in schools, and it can be quite practically taught if a teacher is fairly careful.

21247. Would you have drawing made compulsory in all schools?—As far as it was possible, doing no personal injustice.

21248. Is the blackboard sufficiently used in teaching drawing?—Well, I think not; I did not use it sufficiently myself at one time, but I have used it a great deal more, and I find it very useful.

21249. Do you teach drawing from the object itself for advanced children?—As far as I can I bring the object before them, but not object drawing. Object drawing, except you take great care with it with a fifth class child, injures the child. I saw a teacher giving a lesson on what he called model drawing. I knew, from my standpoint, it was not the model I was looking at, and, perhaps, not two children saw the model as he drew it. I would take the ball, that is in our drawing books, and place the school bell alongside it as close as possible, and let them see what they were drawing.

21250. What do you think about kindergarten?—It is a very nice to look at, and instructive, and if carried out properly, I think it would be very useful, but the teachers I met with in England complained of its defect in not teaching drawing properly; they had got their experience in schools where it was a system of filling. One man said they were a set of dandies, but I suppose that is not the system itself, but the fault of the teaching he said it could be made a good thing.

21251. To come more particularly to the subject we are inquiring into—manual and practical work—what are the main objections that occur to your mind as regards the difficulty of introducing it in a more extended form?—So far as I have looked at it—

21252. Did you see it in England?—Yes, and I made inquiries carefully from the teachers.

21253. Did you not say else at work?—I did; on hours in London were from ten to four, and it was difficult to get time to see it; but I went to some of the technical schools and manual training schools.

21254. Perhaps you will tell us what your objections are in detail?—In our schools there is only one room—in most of them—and managed by one teacher, except there was some arrangement for junior classes to be dismissed, and to take an extra hour for manual training, I don't see it could be very well done.

21255. When we were in the West of England a teacher came before us, who said that he put up a room himself at very little expense; and he put the price of desks and benches, and all that sort of apparatus, at a very much lower figure than we had ever heard it put anywhere else. Do you think that it would be possible to put up a low-roofed room near a schoolhouse?—It would be quite possible, but if you have only one teacher he may as well discuss the justice. I presume he taught it at a separate time from the regular school hours.

21256. Do you think it would be possible to erect buildings, either of corrugated iron or wood, that would be sufficiently large, at no great expense?—Yes, I think there could be, now that there are such a number of houses of corrugated iron.

21257. I see by your memorandum that you think that the greater number of children leave school before the age at which manual instruction begins in England?—If we took up using the saw and plane, but a great amount of manual training could be carried up from the infants through all the classes.

21258. In the way of cardboard-work and wire-work?—Exactly.

21259. Did you see any wire-work?—Yes.

21260. Did you consider that it was a good occupation?—I rather thought cardboard-work was a nicer thing. I tried some cardboard-work for solid geometry myself some time ago, and I found it was the only way to get the regular bodies, to cut them in cardboard and set them up.

21261. Do you think a desire for a good general education is required to take advantage of manual training?—Yes, that was the general experience of the teachers; they find they have to substitute in some places a preparatory or junior class, in order that the pupils may be able to take advantage of training, particularly in the Midland counties of England, they were not knowing what a right angle was, or how to go to measure to scale. I wanted, some time ago, a machine to make a box for the reflection of light, and I wanted a piece of glass inclined at an angle of forty-five degrees, he said it was all right: he brought it back, but it was not right. I got another man, and I wanted that not to be spoiled, I drew a right angle and bisected it. "Why did you not tell me that at first, that is the common bawl." Neither of us understood the other, but he made it all right. The same thing is found in England, that the pupils have got such an elementary education that they are not able to take advantage of the technical training.

21262. If manual training were to be introduced, would it be necessary to extend the time for school

training to the second stage of fifth class?—Yes, I think it would be the very lowest grade for leaving school. A boy passing out of the fourth class and leaving school gets a very poor catch of school work. Sometimes I have applications from parents to send them a certificate, or else to say their girl has passed in fourth class, and that is often the last at school.

21263. Granting all the objections which we have heard repeated very often, what would you say supposing that they could be got over? What course or course of manual instruction do you think could be introduced with advantage into day schools?—I think cardboard work might be introduced, brushwork in connection with drawing, and blackboard drawing and kindergarten extended to paper-folding and cutting, and mounting and crayon work.

21264. Perhaps you will tell us first which you would advocate—would you advocate clay modelling?—Very little, cardboard would be a nicer thing; it takes up geometry well and shows geometrical figures.

21265. I suppose you mean by bent ironwork what they call wire-work?—Exactly. For any teacher that wants to teach drawing here is a book from the Birmingham School, Mr. Taylor's (proofed). Here is some cardboard work that was done by a pupil in the summer course. Here (goodwood) is a rejected model, and that (goodwood) is a passed model; that is drawn by a girl just passed her masterpiece.

21266. What was wrong with it?—It appears it would not pass the teacher.

21267. Having told us what you think might be introduced with advantage, what do you think should not be introduced?—To go into the solid models would not be practicable.

21268. There are very few instances even in Sweden where that is done, it is only in towns like Birmingham or Stockholm that we have seen it?—And these things might be introduced in city schools. I have inquired of teachers, and I find they are not generally taken up through the country schools in England.

21269. We were told that the main reason for that is the difficulty of providing the buildings and providing the appliances. At Penwith we saw a class of teachers on one Saturday morning at work at a centre, but we were told that only one of them was actually carrying out, in his own school, instruction in what he was there practising; and the reason for that appeared to be that it was only in one school had the money been found that made it possible?—I thought the money for all books and materials is found in England by the authorities.

21270. It is found in the big cities by the School Board?—I find in England they have £800,000 for practical art and science teaching, and we have nothing corresponding in Ireland.

21271. Did you notice that that was almost entirely spent in the big towns?—Yes, we have the same money, but it is not devoted to education here. We are perhaps not as practical in our day schools as might be wished, but we are more practical than even the Intermediate; it is all book work with them.

21272. There is another subject within the scope of our inquiry, and that is with regard to a special training course for teachers?—I think, my lord, if it is thought to introduce it into Irish schools the first thing would be to establish centres or pay teachers to attend English centres. I found it a great advantage to attend at South Kensington from 1872 to 1880, but they paid my expenses as gave me a grant, I think you should pay the young teachers to go to these English centres and it is not at all expensive; they could go during their holidays.

21273. Rev. Dr. EVANS.—Is your school a National school?—It is.

21274. What you have been saying to us you have been saying from the standpoint of a National teacher?—I have.

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Peterson.

21275. And do you believe as an experienced teacher that we could introduce this work about which we have been talking into our schools?—If we first prepared the teacher and found the money some modified form could be introduced.

21276. Could we not introduce it on a small scale first?—You could, the physical training would cost very little at first, and it would train the muscles and the whole activity of the child.

21277. And as it grew it would be taken up more and more extensively?—Yes, if you brought it under the teachers' notice and added a money value for it.

21278. How do you suggest that qualified teachers may be obtained?—The present teachers are able and competent men, and anxious to do the best they can.

21279. They are a noble body of workers, whose value has not been sufficiently appreciated or paid for?—We think that if the time and the accommodation and the money were provided the teachers could learn it, if it is to be introduced. I know the teachers pretty well. There are quite a number of science certificates and drawing certificates through the country that are not made use of.

21280. How many teachers have we in our National system in Ireland who could give manual instruction in woodwork?—That depends on what kind of woodwork. There is a prejudice against it at the present time, because it has been cutting and sewing and making stools. I knew one school where it was given; at that they had a special teacher; the manager had been all over Ireland and got him at last.

21281. What is the value of a copybook when it is written?—Very little.

21282. Was there no value in the teaching which enabled the pupils to produce that book?—I don't know much about it practically. This teacher was brought, he was set to work at carpentry work, and the people looked to the school who were going to be turned out carpenters, but for five or six years it had no other head of it in that school; the parents laughed at it and the pupils would not go.

21283. In a great many of the training colleges where woodwork is taught many of the teachers never take a saw in their hand, and the great objection at Galway was that they were going to make botches of the pupils, it was this competency work that they were considering. You believe manual training would be beneficial to the pupils?—It would sharpen the eye and the intelligence. Science teaching is about the best training for a teacher and for a pupil also.

21284. Rev. Dr. Wilson.—Is the Charfield Road National school a large one?—Yes, from 160 to 200.

21285. Have you an infants' class?—We have.

21286. Do you teach kindergarten?—Not as kindergarten; we teach exercises, but we have noticed the error not the money nor the accommodation; we have plenty of accommodation if we could make use of it; we have an upper room idle.

21287. You say kindergarten is nice to look at; don't you think it has more merits than that?—I do, but it is found by a great number of teachers I have met—for instance those people we were told of in London who do everything for themselves; I have been in search of them and never could find them. I went to a school and found they were lectured at and talked at, and yet we were told they did everything for themselves.

21288. Do many parents in this district object to the alternative scheme?—We found they would not take it up at all; it is not easy to get the parents to provide the material for the present course.

21289. I see you put into your programme, order and cleanliness as an important point; I think it should be one of the first things in Ireland?—Yes, Doctor.

21290. Mr. Moxtor.—During the time that you had physical science classes did you find that the pupils took an interest in the instruction?—Very great interest.

21291. And did they attend at extra hours?—They would come on Saturday for that when they would come for nothing else. I have endeavoured in the winter time to bring my advanced class in, and they would come on Saturday for that or an hour's drill, when they would not come for anything else.

21292. Did you find the pupils were satisfied with giving up Saturday for that purpose?—Quite satisfied. I did not put down the Saturday work on the timetable. I would be very glad to get the senior pupils in for an hour or two hours on a Saturday.

21293. Were they schools in connection with the Science and Art Department?—No; a class of advanced day boys that I brought in for morning work.

21294. Did you hear the evidence of Head-Inspector Eardley this morning?—I did.

21295. Would you agree with him?—I would. I remember Dr. Clarke. I remember when Mr. Eardley left and was appointed inspector.

21296. Then you received instruction at the normal training college from Dr. Clarke, who was lecturing on physical science?—Yes; and I think it was a great pity that these practical lectures were done away with at the training colleges. You must begin with the teachers there.

21297. It was the lectures you participated in, those that led you to introduce the subject later on?—I had tried some of the experiments before I commenced to be a teacher. I had read in an old book about zinc and hydrogen, and I did it, and burst the bottle, but after I came home from Dr. Clarke's lectures and took a school, in the winter time I was idle, and I introduced lectures and gathered the people in, and I had science classes.

21298. Taking manual instruction, waiving these comparatively small points of difficulty you have raised here, and looking only to the broad principle of it, are you not in favour of its introduction especially in leading places where the teachers are qualified to give instruction?—Yes, sir; and I believe all teachers could qualify with a little exertion, and the teachers would be satisfied if it were properly understood, and it was explained to them what was meant and wanted. They are prejudiced as to these carpentry classes, which have done more harm than good, but if they saw the nice geometrical models I think this could be done under a little supervision.

21299. In town schools what are your hours?—Our hours are from 10 to 3, but we are generally in from 9 to 3.30.

21300. With an intermission of half an hour?—Yes.

21301. Would you be in favour of a longer intermission and two roll-calls?—Calling the roll twice is a great difficulty. I remember a head-inspector coming as to check my roll, and he spent from twenty to two until he had time.

21302. On the other hand, I had in my mind a large model school for 500 pupils, and no time was taken away from the general instruction. There was asked by the junior teacher?—I do that at the present time. I stop at work, and the roll is checked.

21303. So practically a second roll-call would not be attended with any loss of time?—No; it is only the teacher who is marking the rolls. I have six rolls.

21304. Would you advocate the propriety of children coming earlier to school than at present, and of an earlier roll-call?—The teachers would be quite anxious to get the children in, but the difficulty is in getting the children in.

21305. Does not our present arrangement give a bonus, as it were, to irregular attendance?—I generally have my roll completed at a quarter to eleven—earlier than that you cannot. I was abroad in England in some places, where the children are in from eight o'clock. If we had to get the children in at eight o'clock we would have very few to teach.

21306. But in these schools they allow an interval of two hours?—Yes.

21307. You are also in favour of kindergarten, and its development into higher classes?—If it is started at all it should be carried right through the classes, and the drawing in kindergarten should not be a lot of toys. A teacher told me had a large school, and was obliged to complain to the Board and have the whole thing remodelled, owing to sifting.

21308. Mr. RAMSDELL.—What has been the effect of the Compulsory Education Act in Derry?—It has improved the attendance to a certain extent, but not nearly so much as we expected. Some pupils are absent a fortnight, then the officer calls, and they go to school for a few days, and then they are away again. They don't attend in a satisfactory way.

21309. Rev. Dr. EVANS.—If it has not put more on the roll, has it not increased the average attendance?—I think it has made those who were irregular, perhaps, attend a little more regularly, so as not to have the officers calling around.

21310. Mr. RAMSDELL.—When you were in England you spoke on the subject of manual instruction to a good many teachers?—I endeavoured to get all the information I could.

21311. What was their opinion about it?—It was not as exactly favourable as I thought. I met a man from Cambridge, and he was all for it; there was nothing like it. Another man, who taught it in Birmingham, when the Cambridge man asked, "Did it not develop their intelligence?" "Well," said he, "I am at it three years, and I don't think they are any the wiser." That is as far as he could go.

21312. Were you in Birmingham?—No, I only spoke to the teacher.

21313. Where did you see manual work carried out?—In one of the Board schools at Maylebone. I was through the technical schools in Chelsea and Oxford Street, but I had not a good time to go to

the class. The science work there was all practical. They gave free lectures; they were working with gun and lamp-black, &c.

21314. Would it be easy to extend the teaching of science in the rural schools in Ireland?—I believe it would be very easy. My experience is that any teacher can make the apparatus necessary, and get the children to make them, and that, with a little additional money to provide the apparatus he cannot make, would introduce science all through. And it is a pity the Science and Art Department took such a step as to kill science in Ireland.

21315. How could the Board of National Education encourage the teaching of science?—By making a fair liberal grant, and providing the teachers with facilities.

21316. Mr. MALCOLM.—And waiving that question of the fee from the pupils?—Yes.

21317. Mr. RAMSDELL.—Do you think that teachers could easily learn sufficient science to be able to teach it in their schools?—I am certain of it, from my knowledge of the teachers. They already have the knowledge, and only require to apply themselves, and would be quite willing to do it.

21318. If you had your choice between manual instruction and elementary science teaching, which would you think the more useful?—I would prefer science.

21319. Would you be inclined to make it a compulsory subject in schools?—I don't know that I would go so far as to make it compulsory.

21320. Even if one of the existing compulsory subjects were omitted?—If you made it optional for a time, and put a respectable fee to it, that would make it worth while taking it up.

21321. Have you any remarks to offer about grammar and geography?—I think they might be a little modified, and both made more practical.

Londonderry.
Oct. 26, 1897.

Mr. William
Fitzmaurice.

FORTY-SIXTH PUBLIC SITTING.—TUESDAY, OCTOBER 19, 1897,

AT 10 O'CLOCK, A.M.,

At the County Buildings, Dumfries.

PRESENT:—THE RIGHT HON. THE EARL OF BELMORE, G.C.M.G. in the Chair; REV. HENRY EVANS, D.D.; REV. HAMILTON WILSON, D.D.; W. R. J. MOLLOY, ESQ.; CAPTAIN SHAW; and J. STRUTHERS, ESQ., B.A.;

with J. D. DALY, ESQ., M.A., Secretary.

Dumfries.
Oct. 18, 1897.

MR. JOHN MALCOLM ATKINS, F.R.S.E., Member of the Education Committee, Dumfries, examined.

21322. CHAIRMAN.—You are, I believe, a Fellow of the Highland and Agricultural Society?—Yes, my lord.

21323. And Chairman of the Technical Instruction Committee of the County Council of Dumfriesshire prior to its amalgamation with the Secondary Education Committee in 1896?—Yes.

21324. Will you kindly explain to the Commission the constitution of the County Technical Instruction Committee?—The County Council in 1891 decided to apply the Residue Grant under the Local Taxation (Customs and Excise) Act, 1890, for the purpose of technical education, and the Council having regard to the interests of the great majority of the inhabitants of the county, and with a view to eliciting the sympathy and aid of those bodies more especially interested in technical instruction, resolved to entrust the administration of the funds to a committee representative of (1) the Council, (2) the School Boards in the county; and (3) the Agricultural

and Dairy Associations. There was also a committee in each of the five County Council districts of the county consisting of (1) the members of the district Committee of the County Council; and (2) representatives from the district Agricultural Society and School Boards. These district committees are under the control of the county committee. The committee, in view of the facts that the importance of technical instruction was not then so generally recognised as it is now, and that little or no provision for that branch of education then existed in the county, was early convinced of the necessity of, firstly, by a kind of pioneer work, awakening an widespread an interest as possible in the subject, and secondly of making such provision of a more permanent nature for the teaching of technical subjects in all the schools in the county as the funds at its command would admit of; and the following arrangements were accordingly made, viz.—1. Pioneer Work. (a) Popular Lectures for farmers and others.

Mr. John
Malcolm
Atkins, F.R.S.E.

Dumfries,
Oct. 12, 1899.
Mr. John
McNab,
Aberdeen, F.R.S.

—In 1891, by arrangement with the Glasgow and West of Scotland Technical College, short courses of lectures on agricultural botany (chiefly grasses) and agricultural chemistry were delivered at six centres, but the attendance, except in the case of one centre, was disappointing, and nothing further was done in this direction until 1894 when there was given a further course of lectures on such subjects as farm-yard manure and lime, purchases, valuation, and balancing of manures, feeding stuffs, "fingers and toes," &c. These lectures were evidently so much appreciated that a more advanced course of six lectures on "manures and manuring" was given in the following year at three centres, and the attendance was again very good. Looking to the interest that had been aroused by these lectures, and by a series of lectures kindly delivered by Professor Wright of the above college on the results of certain manuring experiments in the county, voluntarily carried out by the college, the committee arranged with the college for the carrying out of certain further experiments, as follows, viz.—(1) *Field experiments*.—In 1895 an important set of experiments on the manuring of turnips was carried out on nine farms throughout the county with the assistance of the college staff and under the supervision of small local committees. The results, which were very instructive, were embodied in a report, and also formed the subject of a lecture delivered at a convenient centre in each of the five districts of the county, but, except in two instances, the lectures were indifferently attended. In 1896 more extensive experiments on the manuring of hay, pasture land, and turnips, were satisfactorily carried out. Lectures explanatory of the results were also delivered and were well attended.—(2) *Dairying*.—(1) *Cheese making*.—In 1892 and two following years, by arrangement with the Wigtownshire Dairy Association, their instructor gave demonstrations in cheese making at a large number of centres, the committee paid the salary of the instructor, and the county dairy association made all the other arrangements. In 1894 during twenty-four days the instructor was engaged there were 248 attendances registered as against fifty-three in the previous year when the instruction was under the Dumfriesshire Dairy Association; in 1893 (twenty-four days' instruction) the attendances numbered 176, and 160 in 1894 (eighteen days). A fee of 2s. 6d. was charged, the holder of the ticket being entitled to attend any or all of the demonstrations. The demand for the services of the instructor becoming practically confined to one district and pretty much the same people attending each season, it was considered advisable to discontinue this form of giving instruction and hold out inducements to those engaged in dairying to attend for a regular course of instruction at Kilmarnock Dairy School. As to the result of the instruction given by itinerant instructors the chairman of the Dumfriesshire Dairy Association reported that much good had been derived and that there was a marked improvement in the cheese produced in the districts where the instruction had been given.—(2) *Butter-making*.—Practically the same course was followed in regard to giving instruction in butter-making, save that in addition to demonstrations practice classes were also held—in the second and third years. In 1892 (for twenty-five weeks) the daily attendance at the various centres was from thirty-five to fifty; in 1893 (twenty-five weeks) 105 students received practical instruction, and the average attendance at the demonstrations was about fifty; in 1894 the attendance was smaller and difficulty was experienced in getting up classes in several of the districts, and the committee resolved not to continue them in 1895, but arranged for students obtaining instruction at Kilmarnock Dairy School. Very considerable interest was aroused, and it may be fairly said that there has been less bad butter in the county than before this instruction was given. Fees were charged of 2s. 6d. for a week's theoretical and practical instruction, 1s. for a week's

theoretical instruction alone, and 3d. for a single attendance at the theoretical instruction. (3) *Cookery and Laundry work*.—In 1892 classes for demonstrations and practice were held in the district towns—there were two classes daily—the evening class being specially intended for the working classes. Both classes were well attended at all the towns. Classes were afterwards held in a number of the villages and were very successful. So great was the demand for the services of the instructors that a second instructor was engaged in 1894, and thirty-two classes were held in the rural districts with gratifying attendance. In the course of the following year, however, it became evident that the ground had been over-taken, and the classes were abandoned. Small fees were charged for these classes:—(a) *Lectures on Hygiene*.—With the view of giving effect to a special resolution of the Council, the County Medical Officer, by arrangement with the Committee, kindly delivered lectures at thirteen centres in 1893–94 on such subjects as air and ventilation; water in relation to health, infection, food and digestion, dairies and milk supplies. The lectures, which were illustrated by lantern views, proved very instructive and were well attended. Lectures were given in the following year at twenty-one centres with like results, and again in 1895–96 at thirty centres. The attendance at certain of the places that had previously been visited showed a falling off, and for the present these lectures have been discontinued. Admission to the lectures was free. (f) *Plumbers' Work*.—In 1893 the District Council of the National Society for the Regulation of Plumbers applied to the Committee for aid in carrying on classes for the instruction of apprentice plumbers and others in the principles of plumbing work, and the Committee, being impressed with the importance of such instruction being given, voted £50 towards the expense of the classes and the grant has been continued yearly since. The Committee have been assured that the classes have been productive of good. It came now to the second head of the Committee's work, that is, *Permanent Work*. Thus the Committee regarded as the most important part of their work. They felt that if permanent good was to be done it could only be by reaching the young, and they resolved to take steps, as far as the means at their disposal would admit, to put it within the reach of every child of suitable age attending the public schools in the county to obtain instruction, more or less advanced, in technical subjects, and with that object in view they made the following arrangements, viz.—(1) *Preparatory Classes for Teachers in Public Schools*.—In order that the teachers of all the schools, secondary and elementary alike, should have an opportunity of making themselves familiar with certain subjects which it was expected they would teach, and for which the Committee undertook to give grants, classes for agriculture, chemistry (theoretical), Stoddard, and cookery were instituted. The classes for agriculture and chemistry were conducted under the Science and Art regulations by Professor from the Glasgow and West of Scotland Technical College, the cookery class by the County Instructionist, and examined to qualify for teaching under the code, and the Stoddard by Mr. James Wallace, following on a valuable report by him, which is annexed to the Committee's scheme for 1894–95.

21225. Who conducted the agriculture 1.—Professor from the Glasgow and West of Scotland Technical College. The whole of these classes were very largely attended, and there has been no more gratifying feature than the hearty and self-sacrificing way in which the teachers—male and female—have thrown themselves into the movement. It had been intended to follow up the classes for theoretical chemistry by practical classes, but the idea had to be given up for the want of laboratory accommodation, now, however, with the well-equipped laboratory in the new Dumfries Academy, it has been possible to make arrangements with the managers for forty teachers of public schools receiving instruction in practical chemistry during the current session.

Over sixty applications were received, but places could not be found this year for so large a number. (J.) "Selected" or Central School's scheme provision made for "Selected" (and also Secondary) Education.—The Committee, after carefully considering the whole situation resolved that, if possible, there should be in each of the five districts or divisions of the county a school, or rather a secondary department attached to a school, which, while providing for the wants of the parish in which it was situated, would also be available to the more advanced pupils from the schools in the surrounding parishes, and thus the Committee was able to accomplish by means of building and annual grants to the Managers of Dumfries Academy, Lockhart Public School, Annan Academy, Wallace Hall Academy, and Langholm Academy. The building grants do not call for any special remark, but it may be noted that the annual grants from the Technical Grant consist of (1) certain fixed stamp sums amounting in all to £205, and (2) capitation grants paid in respect of pupils who, having previously passed the sixth standard, pass examination by the Science and Art Department in one or more of a comprehensive list of subjects, including agriculture, chemistry, machine construction and drawing, mathematics, navigation, and electricity, hygiene,loyd, and cookery. The capitation grants are distributed at so much per pass, and in the aggregate are equal to the amount (£205) of the fixed grants. Where fees are charged it is a condition that these are not to exceed 5s. per pupil per subject per annum, and at least one-half of the fees to be refunded to the pupils for each subject in which they pass the Science and Art Examination. (3) Elementary Schools.—In order to encourage the teaching of technical subjects in the rural schools, and also in the junior classes in the "Selected" schools, grants at a rate not exceeding 2s. 6d. per head are given in respect of pupils passing inspection in standards V. and VI., and who (1) have been instructed in cookery by a qualified teacher, or (2) are examined in drawing orloyd by a Science and Art Inspector, or (3) pass inspection under the Code in book-keeping, chemistry, mathematics, shorthand, or agriculture. These grants to be expended on remunerating the teachers and defraying other necessary expenses of these schools. (4) Apparent Grants.—Grants varying in amount, according to the importance of the school, are given towards the purchase of apparatus, etc., the managers being usually required to provide at least a half of the cost.

1880. Are they given by the County Council?—By the County Council; we give usually half, sometimes a third, the managers and the rest. (5.) Bursaries and Free Scholarships.—In order to assist promising pupils residing more than four miles from any of the central schools who desire to pursue their studies at one or other of these schools, a certain number of bursaries of £10 each (with free education in addition) tenable for three years are awarded by competition, and an equal number of scholarships, entitling the holder to free education, are awarded in the same

way. The bursaries and scholarships have been keenly competed for. The committee hoped that by these arrangements the rural schools would act as feeders to the central schools, and they have the satisfaction of knowing that, thanks to the moral co-operation of the School Boards and teachers, their highest expectations in that direction and also in respect of the work at the central schools are likely to be fully realised. (6.) Instruction in Drawing.—To meet the wishes of certain pupils, and in view of the possible abandonment of the chess-making and bottle-making classes conducted by the innocent instructors, arrangements were made by means of a grant to the Kilmarlock Dairy School, for the free admission to that school of all students desiring to attend from Dumfriesshire. Those attending also receive from the committee their train fare and an allowance towards lodging expenses. The students who have taken advantage of this arrangement have numbered in 1892, 13; in 1893, 21; in 1894, 48, in 1895, 29; in 1896, 29, in 1897, 15. (7.) Grants to "Local Committees" providing Technical Instruction.

—Grants are offered to local committees providing technical instruction under the Science and Art Department's regulations, but these have not as yet, except in the case of the "selected" schools, been taken much advantage of. It is to be hoped, however, that when the older pupils come to leave the rural schools, a fair proportion of those who may not be able to attend the secondary schools, will evince a desire for further instruction in evening schools.

J. General Remarks.—The committee has always been of opinion that, however desirable proper work, such as has been described, may be for awakening the interest of the older people, the best results are most likely to be got by providing instruction for the young, both in the elementary schools, and in the higher or secondary schools. The work of the committee on its more permanent side is really only in process of development. The new academy at Dumfries was only opened the other day, and the additional buildings at Annan, Langholm, and Lockhart were only completed very recently, and it can readily be understood that the work at these schools has been carried on under difficulties. The committee believes, however, that right lines are being followed, and that good work will be done on these lines, more especially as the administration of the grants for secondary education and technical education throughout the whole county, including the bursary, with the exception of one bursary, Bangor, is now under the charge of one committee representative of all the interests concerned. As an indication of the progress already made, the Commission is respectfully referred to the note on page 5 of the committee's report for year 1896-97, from which it will be seen that there is a gratifying increase in the number of passes in technical subjects for which grants were paid to the various School Boards throughout the county.

Dumfries
Oct. 18, 1897
Mr. John
Mackinnon
Agent, D.M.S.

Note referred to.

Year	Agriculture	Domestic Economy	Cookery	Chemistry	Woodwork Construction	Book-keeping	Mathematics	Shorthand	Drawing andloyd	Total
To 1892, . . .	340	161	116	8	—	—	—	—	—	625
To 1893, . . .	336	329	97	7	66	9	—	—	—	835
To 1894, . . .	510	495	160	10	83	6	19	—	—	1,283
To 1895, . . .	474	496	160	9	91	18	84	5	308	1,545
To 1896, . . .	484	522	200	10	88	38	81	17	*405	1,845
Grand Totals, . .	2,144	1,984	733	44	338	71	184	23	713	6,235

*loyd

Demetrius.
Oct. 18, 1897.
Mr. John
Malcolm,
Alderman, &c. &c.

21327. First, with regard to the work of the committee: under the head of pioneer work, you mentioned cookery and laundry work; were those lectures which you spoke of accompanied by demonstrations and also by experiments on the part of the persons who were attending those lectures?—First the demonstration, and also a practice class.

21328. A class of adults; not the school children?—No, adults.

21329. Then, with regard to the permanent work and the preparatory classes for teachers and pupil teachers in the public schools, was it intended by those classes to teach trades or merely to teach the principles of certain trades to be followed up after children had left the schools?—Exclusively the principles, we have never had the idea of teaching trades at all.

21330. Coming to the question of Sloyd, I understand that the teachers attend the classes with a view that they ultimately should be able to teach Sloyd themselves in the schools?—Yes.

21331. Meaning by Sloyd, woodwork?—Yes, that was the object in view.

21332. Is there any metal work in Scotland?—Not in this county.

21333. I suppose Sloyd is always connected with drawing?—Yes, the two things went together.

21334. And the opinion of your committee would be that any attempt to teach what in Ireland they call handicraft, meaning a certain amount of woodwork, without drawing would be very useless?—I think that would be the opinion of the committee.

21335. We have a term which we know very well, results fees, by which part of the salary of our Irish teachers are paid; you mentioned capitation grants?—Yes, so much per head.

21336. Those grants I suppose are very much of the nature of Irish results fees?—Yes. We had the idea we should give the managers of the selected schools certain slump or fixed sums which did not depend on the results at all, they had spent so much money or sunk capital so to speak.

21337. In a school where Sloyd is in operation, what is the method by which you pay the teacher for teaching the Sloyd; how do you ascertain the amount of pieces that the children make and the amount due to the teacher?—We only pay after inspection by a Government Inspector.

21338. And not a grant similar to the Irish results fee grant, after examining each individual child's work?—That is done by the Science and Art Inspector, and we then pay on his report so much per head.

21339. Mr. SMITH—Have you any opinion as to the reasons for the falling off in attendance at the cookery classes for older people and the classes in agricultural chemistry, they all seem to have fallen off more or less at one period?—Yes, people go with a rush to something new, others have got all the instruction which they think they can get and leave there is only a limited number of the older people who care for this technical instruction, we look to the young.

21340. About what age would these older people be as a rule?—Twenty and upwards.

21341. But would there not be the possibility of giving a younger class of pupils, those who had left school, pupils between fourteen or eighteen to attend special classes?—Yes, I believe there would be, but we wish, if possible, to give them the instruction in the schools; we hope we will give everyone who wants that instruction the opportunity of getting it in a school somewhere, up to the age of fourteen.

21342. During the day?—Yes.

21343. Up to what age do you expect the pupils will remain in these central schools?—We hope to fifteen, possibly over, but Mr. Malcolm, Head Master of Drysdale School, will speak as to some of these particulars, he will give you exact information.

21344. During that time they would be devoting

their whole attention to education, they would not be employed at home in any way?—No, not at the central schools.

21345. There would be only a comparatively few who would attend to fourteen or fifteen?—Yes.

21346. Could not something be done for the sake of those pupils who must in many cases leave school at thirteen, and who nevertheless are interested in such subjects as cookery or agriculture?—My hope is that that will be done in the evening classes.

21347. Have you thought of any plan for drafting pupils out of the day schools as it were into the evening schools, keeping the two in continuous operation?—There is such a school in operation now at Lockerbie in the evening, very well attended indeed, with that object in view.

21348. But you have not thought of any machinery by which a pupil when he says he is going to leave the day school should be put in train for going to an evening school?—Under compulsion do you mean?

21349. No, by strong reason?—That has been attempted in Lockerbie.

21350. Among the special classes for training teachers you made no mention of drawing especially?—That went with Sloyd, Mr. Jerome Wallace, who conducted the classes, is here and will be able to speak precisely.

21351. Do you know to what extent drawing is taught in the county in elementary schools?—All over it, I think it is quite a general subject, I hoped Mr. Barrie, the Inspector, would have been here to-day, but he is engaged.

21352. Then about these five central schools you spoke of, has anything been done to strengthen the staff of those schools on the technical side?—Yes, it is a condition that they must have a thoroughly qualified staff before we give the grant.

21353. I don't mean adding a teacher with general qualifications, who might teach Latin or French or mathematics or English, but one who would definitely teach science, definitely teach drawing and definitely teach woodwork?—We are working to that now, it is a slow process but we have it in view that the classes should be taught by a man specially trained for the purpose.

21354. So that the technical side of education in those schools will not be lost sight of in the general secondary work?—No, it must be kept distinctly in view.

21355. I think you have amalgamated the secondary committee and the technical education committee?—That was done last year.

21356. And that scheme is now in operation?—Yes.

21357. Can you tell me whether under that scheme, you can, so to speak, slump the two grants and distribute it generally or must the technical money be earmarked for technical purposes?—We put them together and that has been approved of by the Scotch Education Department.

21358. That is understood to be the meaning of the Act?—Yes, at least we read it that way, and have followed that course.

21359. Have you any doubts on that point?—None at all, we thought it the better way and adopted it, and the Education Board has approved of it.

21360. You spoke of £205 which each school might get in grants in addition to the fixed sum, does that mean £205 for each school?—No, we have set aside £410 for subsidising technical work in the selected schools, and out of that sum, we give slump grants amounting in all to £205 for those five schools, the other £305 is set aside for capitation grants, and accordingly those who make the most progress will get the most of this £205.

21361. The managers of the schools pay half or one-third of the cost of the apparatus?—Yes.

21362. Does the same apply to the expenses of building?—We are only able to give one-eighth to one-twelfth, they have spent thousands of pounds.

21363. So the local contribution is even so much greater than the contribution of the central committee?—Undoubtedly.

21364. I suppose you regard it as indispensable in any scheme of education of this kind that the local interest should be encouraged and maintained?—Certainly, I think it is hopeless unless you get local interest.

21365. And it would not be much good for a central department to spend money in erecting technical schools through the country and administering it from the capital of the country?—I think you must have both to be perfectly successful. You must leave it all to the local authority, that is my opinion, you must have some compelling power behind the local authority to direct it and to see that it is doing its duty.

21366. On the other hand you would not have the compelling power alone, but something to be compelled in the locality?—I think so.

21367. To what extent are the bursaries and free scholarships availed of?—We are only able to give eleven each year, but we had some sixty applications for them.

21368. Will you make it a condition in the case of these bursaries that they must complete their three years at a secondary school?—We have not made that condition yet, we don't wish to be too strict to begin with.

21369. But you will aim at that by and by?—Yes.

21370. You would not think it satisfactory that a pupil should get a scholarship of that kind, go to a secondary school for a year and go away again?—We would like that they should stay three years.

21371. It would be so much money lost?—In a great measure.

21372. Rev. Dr. EVANS.—You used the word *slump* and I don't understand it?—A slump sum means a fixed sum not depending on anything in the way of success or results.

21373. You said you always begin with the young, now why?—We have found that the older people come and attend lectures, listen to them and go away and forget it almost all in a great many instances. But we think the young will be able to retain what they learn if they are kept at the school, and get to know what is considered the best way of doing things, they won't know how to do a thing badly when they are trained to do it right to begin with.

21374. You spoke of preparatory classes for teachers, where are they held?—In Dumfries and Lockerbie.

21375. And you have similar classes for instruction in agriculture?—We had them, but not now, we suppose the teachers have got all the instruction they wish to enable them to teach it in primary schools.

21376. And you told us that cookery was taught by the county instructors?—Yes.

21377. Now would you kindly indicate what her functions are, what she does, does she go from school to school?—No, in centres. Take a village, the cookery classes are advertised to be held in the afternoon and evening, and the people attend there, she gives so many lessons, and then moves on to the next village.

21378. She is a peripatetic teacher?—That is so, of course her services have been dispensed with now, we have been round all the villages, and she went round a second time, and even a third time, to some places, until the supply of grown up pupils was exhausted.

21379. I think you said also that you had selected or secondary schools and also secondary departments, are those secondary departments in Board schools?—Yes, there is one in Dumfries, the Dumfries Academy, they have a secondary department in Lockerbie, they

have a secondary department with a Board school, Langholm Academy, the district town of another division of the county that is a Board school, they are all Board schools, I should say, with the exception of Wallace Hall, which is under a body of governors.

21380. But there are elementary classes in these schools with pupils from six to seven years of age?—Yes.

21381. Rev. Dr. EVANS.—About the bursaries and free scholarships, you said that there were eleven of these, does that mean that there are eleven bursaries and eleven free scholarships, or both together eleven?—eleven of each.

21382. And the bursaries are valued at £10 each?—Yes.

21383. Is the free scholarship of the same value?—No; the value depends on the fees charged. There are only two schools where fees are charged, the Dumfries Academy and Wallace Hall.

Mr. ROBSON.—Five or two subjects.

Witness.—At all the other schools the education is quite free.

21384. Captain SHAW.—Could you tell us what is the total amount you have at your disposal for technical instruction?—About £1,100 yearly; it varies a good deal, according to the winter fever in the country, if there is winter fever we get less money.

21385. Have you taken any steps for instruction in agriculture beyond what is given in these secondary schools?—Not yet.

21386. Do you contemplate doing so?—Dr. Gillespie will speak as to that point, we hope to have a college, if we can get £5, for the southern counties.

21387. At present students go in for the Science and Art examination in agriculture?—In the selected schools.

21388. Do you think they get a good knowledge of agriculture from such a course, or merely bookwork answering?—It is the best we have at present, if anything higher or better could be instituted, we would go in for it. What we have done is to take the best we could get for the present.

21389. You have not any classes formed for practical instruction?—Not yet; in connection with this college there is a wish that some such arrangement should be made.

21390. Mr. SMITH.—But you have already example plots under the management of the professors of the West of Scotland College?—Yes, those are for farmers, not scholars.

21391. Captain SHAW.—They are not utilized by the boys in the secondary schools?—No.

21392. Is agriculture taught in all the elementary Scotch schools?—I think not throughout Scotland.

21393. Then there is one remark you made about the results of the inspection of Skryd by the Science and Art department, they don't say that each student has passed—they merely give a general pass for the whole class?—Some of those points I cannot speak to, Mr. Bartie would have given exact information.

21394. Because I think there is a wrong impression that each boy passed, and you give your grant on each boy that passed; you said so in your evidence?—We pay for the pupils certified by the inspector.

21395. The inspector does not pass each boy separately, he reports on the whole class?

Mr. ROBSON.—We give a grant for the total of the class—so much per boy.

21396. Rev. Dr. WILSON.—From what source does the County Council derive its funds?—Government grant.

21397. What would be the amount of the grant to this county?—£1,160; we always hope for £1,000, we have sometimes got £1,160, and have had to take £200.

Dumfries.
Oct 29, 1897
Mr John
McLennan,
agent for S. & A.

Denfries.
Oct 18 1887.
Mr John
Maitland
Admrs. &c. &c.

21497. I thought it had been raised by an assessment on the county?—No, the County Council had the option of applying this money to the relief of rates or making provision for technical instruction, and we chose to give it for technical instruction.

21498. You gave public lectures for farmers, were those well attended?—They were to begin with, and then they fell off.

21499. They think they have got knowledge enough?—It looks like it, unfortunately.

21500. With field experiments, did the teachers go out and take farmers and others as to see in the fields how the various crops were advancing?—They were only accompanied in most instances by a small local committee of farmers, but the lectures explanatory of these experiments were well attended.

21501. As to butter-making, have the pupils attained marked excellence in butter-making?—Many of those who attended have, it can be seen; even those who attended some years ago still go on making good butter.

21502. Does the article compare, do you think, with what comes from Denmark?—Only to a limited extent. In this county there is a good deal of raw milk sold, and very little butter made, comparatively speaking.

21503. What proportion of the building is paid for by the public grants—the committee's grant?—From one-eighth to one-twelfth.

21504. And from what source are the other portions got?—Rates levied on the parish; that seems to be a little hard on the particular parish, the rates levied on the parish in which the school is situated.

21505. What is the value of the expenditure grant you give to each pupil that passes a certain subject?—From £1, we have got £1, I think, for some of the subjects; those are in the Science and Art classes in the selected schools. In the rural schools we have only been able to give 2s. 6d., and it is too little, I think.

21506. Mr. VOGEL.—Is the entire organization as regards education in your county carried on by the County Council?—No, we have only the technical instruction and secondary education. All the elementary work is carried on entirely by School Boards, having nothing to do with the County Council.

21497. But do they not dovetail into each other, so to say, for general purposes?—They do.

21498. They work harmoniously, I presume?—They do; we have the money, and we say, in effect if you, the School Board, will make certain arrangements, we will hand this money over to you, but we do not interfere with the internal arrangements.

21499. Socially, is there any distinction between the class of pupils in the elementary and the secondary schools?—None whatever. By elementary I mean the rural schools where the younger children are, and we hope they will come to the secondary school, but in the secondary school there are the young of the parish in which that school is situated.

21500. In Denfries have you elementary schools along with secondary schools?—Yes.

21501. And from the elementary they are expected to go into the secondary school?—Yes, that is the expectation.

21502. And socially there is no distinction?—None whatever.

21503. What is the average rate per head for the education of a child in the place where we are at present, counting all the sums—what you get from the County Council, the Scotch Department, and the Science and Art Department?—I could not answer that, but we will be pleased to send you particulars.

21504. And perhaps at the same time you will kindly let us have a copy of your statement for 1886-87?—Yes.

21505. Mr. SMITH.—Was there any reluctance on the part of the teachers to attend these special classes you had in Sloyd and drawing and agriculture?—None whatever, they seemed very anxious to come.

21506. Did you charge them a fee?—No.

21507. Mr. SMITH.—What was the length of the course at the Kilmarnock dairy school?—We say they must not take less than six days—some took six weeks.

21508. You are aware that in Scotland there is no distinction between the elementary and the secondary schools in the eye of the department?—None at all.

21509. But one shrank off into the other—the one school may be both elementary and secondary?—Yes.

Rev. J. CHISHOLM, M.D., Chairman, Highland and Agricultural Society, examined.

21450. CHAIRMAN.—You are Chairman of the Highland and Agricultural Society of Scotland?—Yes.

21451. And a member of the Education Committee of the County Council of Denfries?—Yes, and I may add that I have been very actively and intimately associated with all movements for agricultural education throughout Scotland during the last quarter of a century.

21452. Will you tell us what is your experience of agricultural teaching in rural schools?—I think that the elements of agriculture can be quite successfully taught in rural schools, and I am of opinion, from observation, that they are successfully taught. Grants are given under the Code and by the Technical Committee here for agriculture as a special subject, and I believe I am quite correct in saying that the grants are as numerous for that subject as for any other; and it is successfully taught from text-books.

21453. What sort of text-books are they—are they very ambitious books?—No, simple books.

21454. Is there a good deal of matter to be got up by memory?—No, not a great deal, the simple facts of nature that are seen around, and especially nature seen on farms, are explained, and one great advantage is that the farms around constitute object lessons that the teacher can appeal to with the greatest ease and effect. The children in the rural schools are almost entirely either farmers' sons, or sons of agricultural labourers connected with farming—more

or less directly, and those children are perfectly familiar day by day with everything that takes place on a farm as far as they can see it, and are quite able to appreciate any illustration that the teacher appeals to.

21455. Farming in Scotland is of a very superior character to the average farming in Ireland?—Well, I have only been once in Ireland. I would not like to criticize Irish farming, but no doubt it is.

21456. That being so, you think, I believe, that experimental plots in connection with rural schools in Scotland would not serve any good purpose?—I don't think they would serve a good purpose, they would be unnecessary, and I don't think they would be well done or carried out successfully, and I think they would perhaps do more harm than good, because they would lead to a bad impression being produced in the mind of the agricultural community. They are unnecessary in Scotland, because these object lessons are universal round the schools.

21457. You attach great importance to the education of the teachers in agriculture?—Very great importance.

21458. What length of course would you think sufficient?—Unfortunately the teachers that have been taught—the teachers of elementary schools that have got special instruction—have only had a course of about a month. I am a member of the Board of Rural Economy connected with Edinburgh University,

Rev. J.
Chisholm,
M.D.

we have encouraged and subsidised a course there which lasts only a month, and I am of opinion that is quite insufficient. It is, of course, better than nothing, but it would be very much better if a more systematic course would be organised and carried out. And I have long been of opinion that in such a country as Scotland it would be very desirable if in our normal schools, where a very large proportion of our actual teachers are trained, there was provision made for giving them a sufficient course, at all events in the principles of agriculture.

21428. I am not familiar with the term normal school; does that answer to training college in Ireland?—I suppose it does.

Mr. STEPHENSON.—It is the same thing.

21429. CHAIRMAN.—Do you corroborate Mr. Atkinson's evidence as to the good done by experiments of the Glasgow and West of Scotland College?—I think they have done more good than anything connected with agriculture in Scotland of recent years. The experiments themselves were valuable, but they have awakened interest in the minds of the farmers to a degree I have not seen aroused by any other movement. The farmers have been led to think on practical agricultural questions to a greater degree than they did before, and I believe, in consequence of this, are farming more economically than they did before. That is to say, they are producing perhaps fully better crops than they did, and doing it at a less cost, cheapening production. I think any such scheme as that is of the greatest practical benefit for the enlightenment of the actual farmers of the present day.

21431. How far do the teaching experiments of the Glasgow and West of Scotland College extend; to what distance from the central point?—Well, the idea has been to have three centres in Scotland, Edinburgh, Glasgow, and Aberdeen, and to make these centres the headquarters of the counties that are adjacent, be nearest to them, and the Glasgow and Technical College is supposed to include within its area the south-west of Scotland. I believe they also experiment in Fife, but I don't know how they came to go to Fife.

21432. I believe that you attach great importance to instruction regarding live stock?—That is a part of agricultural education in this country that has been almost entirely neglected, except in such places as Cirencester or Downton in England. I am not sure whether they do it at Downton or not, but I had an opportunity of examining with great care for two days the agricultural college at Guelph, Ontario, Canada; they have a most complete and successful system there of demonstrations with live stock. They have a special class room, fitted with very steep benches, and into this class room animals of various kinds are brought, and the professor demonstrates the characteristics of the different breeds, not simply of the individual breeds, the separate breeds, but of the breeds for separate purposes, beef producers, dairy producers, what are the characteristics that ought to be aimed at in producing those breeds, and then the pupils are brought down to demonstrate one by one, and are criticised by their fellow pupils and by the professor, and I believe that that, especially in a past live-stock producing country like Ireland, would be extremely valuable, because it would help the farmers to understand the ideal at which they should aim, for whatever purpose they have in view, in producing any class of breed.

21433. Mr. MOLLAT.—Dr. Gillespie, have you mentioned that the elementary teachers bring their pupils out to see how farming was conducted on the neighbouring farmers' fields; do the farmers offer any objection to that?—It is not done, because they don't require to do it. They would offer no objection, but it is out of the way. I don't know that it is done, because the children are perfectly familiar with the fields around them and the teachers, and he can appeal to those fields as object lessons.

21434. Would you advocate that more attention should be paid in the normal schools, or, as we call them training colleges, to agriculture? Would you think it right that farms should be attached to those colleges, and that practical agriculture should be exhibited to the students?—No, I don't think they should be attached to a training college or normal school. I am very much in favour of the establishment of several farm colleges in Scotland on the same lines as that college in Guelph to which I have referred. A movement has been initiated now, an attempt to get the south western counties of Scotland to combine and establish an experimental college in the south-west of Scotland, with a teaching staff and an experimental farm attached, but I don't think it would do at an elementary or normal school.

21435. In connection with the three places you mentioned, Edinburgh, Glasgow and Aberdeen, will those colleges have farms attached to them that the students can go out and see the work carried on?—No. In the Glasgow and West of Scotland College they utilise the Saturdays, which otherwise would be holidays, to visit, sometimes at great distances, representative farms, and to see the different systems pursued on those farms. I think that is the best that is done at the present time.

21436. Is instruction in agriculture confined to rural schools, or do boys in Dumfries get instruction in agriculture?—I am not aware about Dumfries Academy, but in all the other secondary schools in Dumfriesshire they do.

21437. And you mentioned from text-books—would you favour us with a list of the textbooks?—I could ascertain. There are forty-three parishes, I think, in the county, and in those forty-three parishes there are twenty-eight boards.

21438. Now, Dr. WINNIE.—Do the farmers as a class readily accept instruction as to better modes of farming?—I think they did not use to, they don't readily yet, but I think they are gradually melting.

21439. We look upon them, without any discredit to them, in some ways as rather inmovable?—We call them very conservative in their habits.

21440. It is a more complimentary term than stolid and immovable?—Well, such work as has been done by this Glasgow and West of Scotland Technical College has done more to break down that characteristic of which you speak than anything else. You find a farmer who sneers at agricultural science and will not be moved by it; but his neighbour is influenced by it and adopts some new methods, and he follows his neighbour, and imagines he is not being influenced by agricultural science.

21441. You give him an experiment and he profits by it?—Yes.

21442. I suppose cattle-deeding and rearing is becoming the most profitable department in Scotland?—Yes, if any department can be called profitable in agriculture now.

21443. Well we can compete with foreign countries, better in cattle than we can in grain. What you tell us about that college in Canada would be most important to be taught in our country at all events, and I suppose also in Scotland?—I would very much like to see it taught extensively in Ireland, because we get an immense number of Irish cattle here; they are greatly improved from what they were, but they will have to be further improved.

21444. What do you do with them when you get them here—your grain is not better than one to feed them?—I don't know, we rear them.

21445. Captain BRAW.—How many schools of the Guelph type do you think would be necessary for Scotland?—I should think three.

21446. You say the elements of agriculture are successfully taught in the elementary schools, do the elements of agriculture include elementary botany and chemistry?—They should to a certain extent, but I don't know that chemistry is much taught.

Dumfries.
Oct. 19, 1880.
Rev. J.
Gillespie, &c. &c.

21446a. You think it should be taught?—It should if it was practicable.

21447. Do you know in what class or standards in Scotland they teach agriculture?—I should think the fifth and sixth.

21448. Then the students only get about two years instruction probably in agriculture?—Yes, that is as far as the rural schools go, but if they go to the secondary school they will get more advanced.

21449. Do they do any practical work in elementary botany or elementary chemistry at present?—Not in the rural schools.

21450. Do they learn such subjects as the sowing of seed which is required to sow a acre of anything?—I don't think so.

21451. Do you think that would be useful for them to learn?—I think it would be thrown away on a child of twelve or thirteen.

21452. Do you think learning the description of various breeds of cattle from a book would be useful to children of that age?—I am not advocating the characteristics of breeds for children.

21453. You don't think a child would be likely to recognise an animal from learning in a book what its points are?—No, I don't think so.

21454. Mr. STRAUCH.—You would not advocate an Irish child learning off by heart a description of the black faced sheep, which he seldom sees?—Oh, no.

21455. Captain SHAW.—You say you think experimental plots would be no use for schools?—As regards the children attending school, even if they were successfully taught, that they would be much good. I don't think a child of twelve or thirteen is in a position to appreciate the nice points that are necessarily involved in an agricultural experiment.

21456. In such plots they would never get any results which could be relied on, working themselves?—Oh, no.

21457. But still they could be shown roughly the best results by using certain manures and certain other things, and could be taught the value of experiments even if they made no valuable experiments themselves?—That might be useful if you had not object lessons second.

21458. But then they don't get object lessons in the farms of farmers, which they might get in small plots of their own?—I don't think it is so important that a child of that age should be taught the subject, it is rather the principles.

21459. You think he ought to be taught the elements of botany and plant life and chemistry so that he may be able to appreciate the object of experiments later on?—I think so.

21460. Rev. Dr. EVANS.—Do you touch any portion of entomology in connection with your agricultural work?—No.

21461. I mean respecting insects and pests of that kind that are injurious to crops?—I don't think it is done, but it may be done with great advantage.

21462. Have you any experimental plots or farms in Scotland for purely experimental purposes?—No, I don't think at the present moment there is any. The Highland Society, of which I have been a Director for twenty years, had an experimental station and conducted experiments, but they gave that up some half dozen years ago and I don't think there is any experimental work strictly so called.

21463. Nothing done to explain the value of different kinds of manures and the proportions in which they should be applied?—Oh, yes, it is done by the Glasgow and West of Scotland College, but it is done on farms. A part of a field is given by a farmer, and generally given free of cost, the college supplying the manures and superintending the carrying out of the experiment; but I thought you meant a particular station set apart for experimental work, and nothing but experimental work.

21464. Do they make experiments in spraying

potatoes or such work as that?—Yes; experiments were conducted within a mile of here two years ago.

21465. Or hybridising in order to produce better varieties?—No, that is done by private individuals and done very successfully.

21466. Are the results of this work obtainable anywhere?—Yes; the work of the Glasgow and West of Scotland College is continued each year in the annual report.

21467. Mr. STRAUCH.—I think, Dr. Gillespie, you rather advocate the training of the teachers in normal schools in agriculture?—Yes.

21468. But, of course, many of these teachers are not going to be teachers of rural schools at all—they are going to teach in large towns, would it not be better to give them a course in elementary science—botany and chemistry—rather than agriculture specially?—I include botany and chemistry—I mean agriculture and the allied sciences.

21469. But rather the allied sciences than the application to agriculture?—Yes, but there are matters in agriculture proper in addition to chemistry and botany.

21470. Such as the effect of manures, I suppose?—Yes, and the nature of soils and everything connected with soils, which is not botany or chemistry proper.

21471. It might come in under the head of geology?—Perhaps it might.

21472. You might call it a course in elementary science instead of specifically agriculture?—Yes.

21473. Might not the same be said about the children in schools that it would be better not to teach them agriculture, but rather such scientific principles that they could comprehend at twelve or thirteen as might have some bearing on agriculture?—Yes, I think so, a good deal depends on the situation of the school and the future of the children who are to attend the school.

21474. But something depends also on making the children observant, training them in habits of observation, and getting them to make experiments for themselves instead of reading a thing out of a book?—Oh, yes.

21475. I dare say you have had some acquaintance with the teaching of agriculture in these rural schools?—Yes.

21476. Do you know to what extent it consists of learning a book by heart?—I know it only from the elementary school in my own parish, and I don't think it is done that way. The teacher is exceptionally well qualified, for he attended a course of science and an instruction in London.

21477. You would not consider learning a book of by heart satisfactory?—No use at all.

21478. I think you said that the course of a month which the teacher received at the vacation course in Edinburgh is not at all sufficient?—I don't think so.

21479. So that men who have not received a longer training in agriculture than that would not be competent teachers of agriculture?—They might teach the elements but nothing further.

21480. But for real agricultural education you would look to more advanced schools?—Certainly.

21481. Especially such schools as you spoke of after the manner of Guelph, where there would be pupils of a much more advanced age, farmers' sons?—They would vary from seventeen to twenty-five, and attached to the Guelph school there is a boarding establishment, it is partly liberally subsidised by the State Government. The pupils work upon the farm and they are allowed remuneration for their work, and it costs from £15 to £30 a year, board and education and everything.

21482. Would you have these live stock classes attached to the present schools in Edinburgh and Glasgow and Aberdeen?—It is very difficult to work out the scheme unless you start such a college as Guelph.

21483. Do you know the Cumberland County

Council facts, where something of the kind has been done, near Perth?—I know it by name only.

21484. They are evidently among at the same purpose there that you have spoken of. I suppose you think the knowledge of cattle to be obtained in these classes or schools could not be obtained by cattle shows?—No, cattle shows are not so very educative.

21485. Don't you think that shows where cattle are judged, and there is a large crowd of observant farmers around criticising the judgment, don't they learn a good deal there as to the best of the breeds?—Yes, the best of the breeds.

21486. And the good points of each breed?—It is a very indirect and slow education.

Dumfries.
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Oct. 12, 1897.
Rev. J.
G. Edgar, &c.

Mr. JOHN NICHOLSON, Chairman of the Finance Committee of Dumfriesshire County Council, examined.

21487. CHAIRMAN.—You are Chairman of the Finance Committee of Dumfriesshire County Council, and member of the Education Committee?—I am.

21488. You have a statement there of the grant available for technical education in Scotland?—I have prepared a few statements for the use of the Commission. In the first place I may state that I began to take an interest in this thing in 1892-93, and having talked to my friend Mr. Gillespie, he used his force in the press to endeavour to persuade other counties in Scotland to devote their money to technical instruction, and not any part of it, as they were entitled to do, to the relief of the rates. I think our efforts have been very successful, or in other words that the counties have begun to appreciate the benefit of technical instruction, because while there was £4,702 of the grant applied to rates in 1892-93, next year there was £2,945, next year it rose to £5,723, from a large county applying the whole of their portion, next year it fell to £2,291 and in the year ending Whit-sunday last only £1,840 is, 10s., out of a grant of £17,000 16s. 8d. was applied to the rates in Scotland, the rest being applied to technical education. I may say that in 1892-93 the percentage of the grant spent on technical education was 47·68, next year 70·6; next year, 80·12; next year, 107·31, and this year it was 26·96, showing a gradual increase on the amount spent. As Mr. Atkinson said we suffer in Scotland from the grant not being equal every year, through having the expenses connected with the scheme fixed in Scotland connected with the same fund. I have also prepared a statement of the income and expenditure in regard to our grant in this county, and also an abstract of the expenditure in the counties of Scotland for the year ending 15th of May.

21489. Mr. MORRIS.—Is there any local rate supplementing the £17,000?—There are three counties

in Scotland—three of our most important counties, Forfar, Lanark, and Perth—which each give now a subvention or grant from what is known as the local taxation relief grant, they each give a grant in aid of technical education in their own counties. These are Government grants.

21490. Are these grants applicable to elementary schools, the £17,000 and the local aid in certain places, where you have 31?—Oh, no; they are applicable to secondary schools as well, and eight of the counties of Scotland now hand their grant over to the secondary committees that have been formed, for technical education only.

21491. Rev. Dr. WILSON.—The grant made by the County Council is practically from the rates, because if they did not give it to education it would go in reduction of the rates?—They have the power to apply it for the reduction of the rates, but the first purpose stated was for technical education.

21492. Practically, then, it comes from the rates?—It might be applied to the rates.

21493. Did you ever find so much injury in Scotland?—It pulled down our £7,000 grant in one year, in 1894-95 our grant was over £25,000, in 1895-96 it was under £18,000.

21494. Captain SHAW.—Do you receive a grant for secondary education from the Government?—We receive a grant for secondary education, £1,031. I think it is, our technical grant this year is £252 6s. 11d.

21495. And the two grants are lumped together in this county?—Yes, and administered by the county secondary education committee.

21496. Has the Scotch Education Department the general control of the expenditure of this money?—Yes, the scheme is approved of by them—that is, as far as the secondary education is concerned.

Mr. JEROME WALLACE, F.R.S., Head Master, Harlaw Public School, Canobie, N.B., examined.

21497. CHAIRMAN.—You are Head Master of the Harlaw Public School, Canobie. Will you tell us what are the ages at which children begin to benefit by working in wood?—From ten to fourteen.

21498. They would begin as soon as ten?—Between ten and eleven.

21499. Do you find that they are able to handle the tools at ten?—Some of them even earlier.

21500. Have you special tools for small children, or do they handle the same tools as the bigger children?—The tools are slightly less than the ordinary trade size.

21501. What is the nature and the scope of the woodwork sent to the different ages at which the children are working?—The system which I have wrought in my own small school—in that scheme I have endeavoured to keep in view the central Eloyd principles, instead of adopting the scheme that has been put forward by the London City and Guilds Institute, which consists in making abstract joints instead of finishing useful articles in which the joints, of course the lighter ones, are embodied, and it consists of drawing to scale planes and solid geometrical drawings, it also touches on the arithmetic taught in the school preparation especially.

21502. You are of opinion, I believe, that without such drawing you could not give your efficient

instruction in woodwork?—No, certainly not; drawing, bench work, and measurement must form part of one whole.

21503. And therefore it is not surprising that where, as we saw in a school in Ireland the other day, drawing was not practised in connection with the woodwork, that the woodwork was rather, what they call, a botch?—I should fancy it would be.

21504. What additional subjects are absolutely necessary for the maximum benefit to accrue?—Those I have mentioned, drawing, and not copying drawings only, but encouraging original design from the start. For example, one of the earliest models in the series that I have designed for my own school, and which at the present moment is in the press, begins with the planing up of a rectangular tower stack, and the children are required to make that from my own drawing. Afterwards they are asked to design one to different dimensions, altering the details slightly, and they are encouraged all through the course to original design, so that the drawing is not copying simply.

21505. What class of schools do you think the woodwork is suited for?—Small schools equally with large, for this reason, that from the nature of the teaching the classes must necessarily be smaller than for other subjects.

Mr. Jerome
Wallace,
7 &c.

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Mr. Jerome
Wallace,
2228

21506. You don't find it necessary to have a separate building?—No, because I have only seven to ten pupils taking woodwork.

21507. And you take it in another hour from the ordinary work of the school?—Yes.

21508. Therefore in schools where there is only one teacher with all the classes in the school to attend to, if it were to be introduced, it would be necessary to have either a separate building or to take it at a different hour from the ordinary school work?—Better to have a separate building, but according to the nature of the building, one part of it, as in my own case, might be used as a workshop.

21509. What is the first essential to success?—That the teacher should be trained.

21510. Mr. MOLLAY—You mentioned you had from seven to ten pupils under instruction in this woodwork class. Now is admission to the woodwork class based on their position in the standard in the school, or age, or both combined?—Both, and general intelligence, usually about our fifth standard.

21511. What is the lowest standard that you admit pupils from to the woodwork?—Standard 5, but I do as a matter of fact take some of the older pupils in standard 4, in the last few months of the year that they are in standard 4.

21512. I take it your instruction is not carried out in a separate building but in the schoolroom?—In a part of the schoolroom.

21513. How many rooms are there in your school?—Only one.

21514. Do you find any practical inconveniences from the woodwork chips or shavings requiring to be swept away?—No, the woodwork lesson is carried on when the other classes are away, and that is all looked after before they come in again.

21515. What time have you for the woodwork instruction?—Twice a week, from 3 o'clock to 4.30.

21516. And what are the ordinary school hours?—From 9.30 to 4, and on those days the other classes are dismissed at 3.15.

21517. Then your hours are extremely long hours, because you have to be there?—I have to extend the time in order to get this work taken.

21518. As regards the plant, benches, tools, and so on, who supplies the funds?—The School Board.

21519. What do you say is the cost per child for the instruction in woodwork?—The cost in the case of my own school would be about 50s. or 32s. a head.

21520. Captain SHAW—The annual cost?—No, the initial cost for benches and tools.

21521. Mr. SMYTHES—Who provided that money?—The School Board.

21522. Mr. MOLLAY—Is the instruction in drawing in the case of the seven or ten pupils carried on in the workshop?—At a different time there are three hours per week devoted to drawing, according to the Science and Art regulations, and part of that time is taken for the special scale and geometrical drawing required for the woodwork.

21523. And the rest of the drawing is common to the other pupils of the school?—Quite so.

21524. And you mention you pay special attention to memorisation as a separate subject?—Yes.

21525. Captain SHAW—Is this woodwork inspected for you under the Science and Art Department or the Scottish Education Department?—Under the Science and Art Department, and has been for the past three or four years.

21526. You seem to have formed a syllabus of your own?—Yes.

21527. Did you find any difficulty, under the regulations of the Department, in doing so?—So far as I can understand the Department have no proper regulations, it is only suggestions they make.

21528. They leave the teacher free to form his own syllabus?—He is free in that subject than in any other in the Department's syllabus.

21529. Do you find that is a good arrangement?—I do.

21530. As long as the teacher understands what he has got to teach?—Yes.

21531. You think it is desirable that he should be allowed a latitude in the manner in which he teaches it?—My experience of the Science and Art Inspectors has been that they have followed largely on the lines of the City and Guilds Institute, which is the only examining body for teachers in the country, and their scheme suggests that only abstract points should be made; and I have an idea that if the Science and Art Department's Inspector would base his award on the quantity of the drawing and the bench work done throughout the session, and not on his single day's test, it would be better.

21532. What has been the annual cost per pupil?—It has not amounted to 3s. per head.

21533. I suppose your schoolroom has more accommodation than is necessary for the number of students attending it?—Yes, there is accommodation for seventy or eighty, and the average barely touches fifty.

21534. Do you find any difficulty in disposing of the benches when you are not teaching woodwork?—Not the least.

21535. Mr. SMYTHES—They remain in one end of the schoolroom all the time?—All the time, and don't need to be moved at all.

21536. Captain SHAW—Then you don't utilize them for any other purpose?—No.

21537. Rev. Dr. EVANS—You have experience in teaching history subjects?—The ordinary school subjects.

21538. Have you found that this special manual work aids or hinders proficiency of the pupils in other subjects?—I should say it aids, it sharpens their intelligence.

21539. You would like to see the teachers all trained to do this work?—Yes.

21540. Where might they be trained?—At central classes, the same as Mr. Aitken has already spoken of.

21541. Is there any training work of this sort done in the training colleges?—None whatever.

21542. So that this Commission could not see it done in any training college in Scotland?—Not so far as I know.

21543. Mr. SMYTHES—Have you any assistant in your school?—No, only a female teacher who teaches sewing.

21544. Would it be any advantage to you to have standards 1, 2, and 3 dismissed earlier than the others?—On days on which manual work is taken they are dismissed earlier than the others, at 3.15.

21545. Mr. Aitken left it to you to explain what the arrangements are for training teachers in woodwork; you have been conducting classes for training teachers in woodwork?—Yes, for the last two and a half years, the first year we had twenty-five, and it was decided to send them in for the London City and Guilds examination. A number of those were teachers in Dundee Academy who did not hold the Education Department's certificate, and under the City and Guilds regulations they were not allowed to sit. There were thirteen went in for the examination in the first year's work and eighteen of them got through. In the second year the attendance dropped, and numbers of those who attended fairly well up to the end of the session did not go in for the examination, but six went in for the final examination, and six failed.

21546. Have you classes going on this year?—No, the committee have discontinued them.

21547. How many teachers have been trained in these classes to such a point that they are able to give instruction in woodwork in the schools?—There are nine who have passed this examination.

21548. You say that with an air as if you did not think that sufficient to qualify them?—I should say there are only three or four men out of the lot qualified.

21548. How many are actually giving instruction in their own schools?—One, Mr. Malcolm, at Lockerbie.
21549. And there is no other school in the county in which woodwork is given to the children except in your own?—I was told this morning that there are two.

21551. You yourself were trained at Naas?—Yes.
21552. Of course you had a knowledge of woodwork before that, and you have since been instructor there?—Yes.

21553. And your teaching of the teachers here is very much on the Naas principle?—The main principles, but the use of the knife is discarded.

21554. And you find it rather in the way of teaching that, that you cannot get a qualifying certificate from anybody but the City and Guilds Institute?—Yes.

21555. Which you don't think quite a suitable test of work for teachers in small schools?—Part of it is really good, I think. They require drawing, bench work, and a knowledge of timber and tools. There is a written examination; the drawing and written portion I think a great deal of, but the other part, the bench work, which is making simple abstract joints, I think, is no good.

21556. Could you not form an association to give a certificate of your own, on the lines you desire?—It was once considered by the Scotch Sloyd Association.

21557. You are aware there is a large movement in England for having a certificate on the lines you wish?—Yes, but when teaching in Sweden, I had some of the men who were on the examination committee, and I would rather have Scotchmen.

21558. REV. DR. EVANS.—When were you at Naas?—1893, 1894, and 1895, and in 1895 I was instructor at Naas.

21559. MR. SMITH.—You attach great importance to the teaching of memorisation in a practical way?—I do.

21560. Not simply learning rules from a book?—There (producing) is a scheme of memorisation that I consider practical.

21561. CAPTAIN SHAW.—The City and Guilds do not give a certificate to a teacher unless he has been for twelve months actually learning?—They give two certificates, he must make twenty attendances of two hours duration, before he can be allowed to sit the first year's examination, and twelve attendances before he can be allowed to sit the final examination. The first year's examination consists of an examination in benchwork and drawing. The second year's is of benchwork, drawing, and this written one of questions on timber and tools.

21562. But as far as the benchwork goes, it is only a test of the teacher's ability to use tools?—Yes, but my idea is that you excite a more healthy interest in children when they are making some object they know to be useful.

21563. But as far as the teacher goes he can make those afterwards if he has got the manual dexterity?—No, for this reason, that if the Science and Art Department, or any other examining body, model their system on the lines of the City and Guilds, that will determine the direction of the teaching. It leaves a possibility of simply cramming up for that examination, and the education of the pupils will ultimately suffer.

MR. JOHN MALCOLM AITKEN further examined.

21564. MR. SMITH.—Then these classes for training teachers in woodwork have been discontinued now?—They have.

21565. But that is not because your committee thinks this woodwork training of little value, you intend to foster it still?—I do, and I think it very probable that it will be made compulsory in the

selected schools, that this instruction should be given. And we hope for larger grants whenever we can get funds that are set free from other purposes, our intention would be to devote a considerable portion of this to the fostering of manual instruction in the rural schools, and we hope to make it compulsory in the rural schools.

Doubtless.
Col. D. SMITH.
Mr. JAMES
WILSON,
P. 215.

Mr. John
Malcolm
Aitken.

FORTY-SEVENTH PUBLIC SITTING.—TUESDAY, OCTOBER 18TH, 1897,

AT 2.45 O'CLOCK, P.M.

At Dryfesdale Public School, Lockerbie, N.B.

Present:—THE RIGHT HON. THE EARL OF BIRMINGHAM, G.C.M.G., in the Chair; REV. HENRY EVANS, D.D.; REV. HAMILTON WILSON, D.D.; W. R. J. MOLLOY, Esq.; CAPTAIN SHAW, and J. SMITH, Esq., B.A.;

with J. D. DALY, Esq., M.A., Secretary.

Lockerbie,
N.B.
Col. D. SMITH.

MR. PETER MALCOLM, M.A., Head Master, Dryfesdale Public School, Lockerbie, examined.

21566. CHAIRMAN.—You are the Head Master of the Dryfesdale Public School, Lockerbie?—Yes, my lord.

21567. Will you kindly give the Commission some details of the manual work as carried on in this school?—The manual work begins in the fifth standard, and at first I arranged that boys who did not take Latin should take manual work in woodwork, and agriculture, the one to a specific subject under the Scotch Code, and the other to be examined by the Science and Art Department, along with drawing. We have been doing that now since the month of February, I think, and anything I can say about it

only refers to that short experience. I find that the boys like the work well.

21568. Will you first give us some observations on drawing, leading up to manual work?—Drawing is taught throughout the school for three hours a week. In the fourth standard they are taught scale drawing, that is according to the Department's requirements. I used to feel that that scale drawing was to some extent wasted time, because the scholars had no idea of what the meaning of the drawing was, but now I think they are able to put it to some sort of use in the manual work. We have to take half an hour and in some cases an hour for the ordinary depart-

Mr. Peter
Malcolm, M.A.

Leicester,
N.B.

Oct. 28, 1897
A. Peter
Melrose, N.H.

mental drawing, they have special drawing for wood-work.

21563. You have freehand drawing?—We have drawing according to the Department's regulations, according to the old scheme, which required scale drawing and freehand in the fourth; model drawing, freehand, and a little geometry in the fifth standard; and now we have taken solid geometry, plan and elevation in the sixth standard instead of plane geometry.

21570. When you are beginning with a class in woodwork, what are the first exercises you put them to?—The first exercise is to plane up a piece of wood to a certain length and breadth and thickness, after having drawn it to scale full size in plan and elevation. That was the first exercise, to make a rectangular piece of wood.

21571. What was the next?—The next was to make marks on it at certain depths, and saw down to those and cut out the pieces between the saw cuts.

21572. Do you go on from that sort of work to make the finished article?—They have not got as far as any finished article yet, they have got no further than making simple joints.

21573. Do you intend to bring them on by degrees?—I hope so, some of the boys have already done such finished articles as a paper cutter and a ruler, for their own amusement.

21574. Do you find that the attendance has improved since woodwork was begun?—Oh, no, we have all the scholars in this district, we have all the scholars in the parish at this school, there are no more to be got.

21575. Is there compulsory attendance?—It is compulsory, there is nothing to improve except that perhaps we might keep them a little longer for the sake of the woodwork.

21576. Mr. STRAUMANN.—On they might be more regular?—We have a committee of the School Board which meets every Monday to look after the regularity, and I think they have got them sewed up to what they can do.

21577. CHAIRMAN.—What did the benches cost?—They cost about 25s. each, ten benches.

21578. How was that money provided?—The School Board provided it.

21579. And the tools?—The tools cost £35, I think; the county, I believe, pays its share, half or one-third, as Mr. ALDER informed you this morning.

21580. Mr. MEYER.—May I ask the total number of pupils under instruction, boys and girls and infants, in the school?—400.

21581. Now, on the boy's side, what are the special subjects you take up apart from ordinary reading and explanation, apart from the purely literary subjects?—We have English poetry and geography, those are class subjects, then object lessons through the school, object lessons up to the second standard, then more organized science lessons, connected science lessons.

21582. In the infant department, you have kindergarten exercises, I presume?—We have kindergarten in the infant department.

21583. Where does that terminate, if at all?—It terminates in the infant department, I am sorry to say.

21584. Would you advocate the propriety of carrying that on to higher classes?—I would, if we could do it, but we cannot.

21585. How often is the workshop instruction carried on in the week?—Each boy gets two hours in the week, we have five classes at present.

21586. Do you find they attend willingly?—Yes, many of the classes meet at eight in the morning, and a number of boys who are not attached to these classes come in for extra practice.

21587. As regards the selection of boys for these classes, is it a voluntary thing?—Of course the boys are put in that I select, but if anybody does not want to go I would excuse him.

21588. The cost of the benches and tools?—£200 would cover all the outfit.

21589. On an average how much per child of those receiving instruction?—We have eighty children, 12s. 6d. each.

21590. Are the pupils all free?—They are all free.

21591. The cost per head all round of your 600 pupils?—About £3 15s.

21592. Rev. Dr. WILSON.—I see you have a large number at shorthand, do the children like that?—Oh, I think so, I think they do, they only have two periods of three quarters of an hour each during the week for shorthand.

21593. Are they making reasonably good progress?—They learn to write it. They don't get up speed of course, but by the time they have been three years in it I believe they are able to take places in offices as shorthand-writers, and the practice they get after a few months will enable them to do very well. Some of the older boys I notice take these notes in shorthand.

21594. I suppose the difficulty chiefly is in reading what they have written?—Principally, that is the test the inspectors use them.

21595. Captain SHAW.—How many children have you got in the secondary department?—Our average for last year was sixty-two.

21596. You have five masters for them?—Yes.

21597. Exclusively?—Oh, no, I gave you the wrong number, there are sixty-two beyond the sixth standard, the five masters are from fifth standard up, and fifth and sixth are partly elementary and partly secondary. We only count those secondary who are taking Latin.

21598. With fifth and sixth in the secondary department how many would you have?—I could not say what the average attendance would be, but there are 500 roughly on the roll.

21599. In the upper fifth and upper sixth do they take agriculture here?—I say take agriculture.

21600. How is it taught?—Well, it is taught by the ordinary class teachers, one of them, Mr. HAN, whom you saw in the fifth standard giving a composition lesson, has attended two classes in Edinburgh summer classes at the School of Rural Economy, and he, I believe, will teach all the agriculture next year at the time that Mr. Wright, the teacher who is taking the woodwork, will take the woodwork of the other classes, but at present both these teachers are employed in teaching agriculture.

21601. In the agriculture practical agriculture or principles?—It is principles from a little text-book, but of course the text-book is not the only thing, the teacher knows something of the subject himself and he has specimens.

21602. Rev. Dr. EVANS.—Have you counted any subject from the programme to make room for the manual work?—None whatever.

21603. What is the effect of the manual instruction on the proficiency of the pupils in the literary subjects?—I should not say that it had any effect at all that I have seen yet, it ought to tend to make them more accurate.

21604. Do you find that the manual work is popular with the parents and with the boys?—So far as I have heard it is popular with the parents, but of course any parent that it was unpopular with might not mention the subject to me.

21605. Mr. STRAUMANN.—What children are attending the woodwork classes?—From fifth standard upwards.

21606. All the boys?—Not all the boys, a good many of the sixths don't take it, a good many of those who are taking Latin and perhaps Latin and Greek, none of those take woodwork.

21607. Do all the boys in the fifth standard take it?—All we could find room for, there were three or four who were not in the first class.

21608. Have you had many cases of pupils asking to be exempted?—I had one case of a boy who snipped

with another boy who was not in it, one boy exchanged to get out with a boy who wanted to get in before I became aware of it.

21608. Of course for boys in the co-sixth it is rather late in their school career for them to begin woodwork?—Probably it is.

21610. If they had begun it earlier they might be desirous to continue it?—Yes.

21611. It is taught throughout in connection with drawing?—In connection with drawing.

21612. And your teacher is one of the class teachers of the school?—Yes, a sixth standard teacher.

21613. And consequently the work is taken after the actual school work is over?—Yes, but I hope to devote it in next year, one teacher to take agriculture with the sixth standard, while the sixth standard man takes woodwork with the fifth.

21614. They attend sometimes in the morning before the regular work begins, and sometimes in the afternoon?—Yes, from eight in the morning and from half past three to half past four.

21615. And as regards the general effect you have not had sufficient experience to say what effect it will have on the rest of the work?—No, but I believe the classes are as well prepared this year as ever they were in their ordinary work, there is no falling off in proficiency and the school is graded "excellent."

21616. CHAIRMAN.—Now, I will ask you to give us some information about the cookery?—That is taught to girls of the fifth standard, sixth and lower seventh for forty hours during each school year, we have had those classes in operation for about six years, and I can say with regard to the cookery classes that they have been no hindrance to the other work of the school, and I believe they are very highly valued by both the scholars and the parents. We draft in classes of twenty or twenty-four pupils at a time, and they take the whole day, Friday, for cookery during the week, the articles cooked are brought by the school children, we have a number of children in the school who come long distances and cannot go home at dinner time, and we provide them with a warm dinner in winter at the rate of 1d. a piece, in this way there is not really a deficiency of la. on cookery unless we have utensils to buy.

21617. At what hour is the cookery class conducted?—From nine in the morning until half past three.

21618. A succession of classes goes on?—No, one class goes on the whole day for seven weeks and then they stop, they are done.

21619. If you provide dinners for the children how do you manage it?—The dinner hour is from half-past twelve to half-past one, the cooks go home or stay and share in the dinner themselves, they have an interval of an hour and that is the hour that the dinner is served.

21620. I thought you said the cooking was only carried on on one day of the week?—Oh, it is only one day of the week that they do get dinner.

21621. Mr. MOLLER.—There is a specialist for the instruction in cookery?—Yes, a certificated mistress.

21622. Is she a member of the regular staff?—She is a member of the regular staff and teaches sewing on the other days.

21623. The cost of the plant?—It is so long since we got it I cannot say, but I have an impression that it was about £10 to begin with.

21624. And you find that the current expenses are paid by the purchasing of the food on the part of the pupils?—Well, except so far as the purchase of utensils.

21625. Rev. Dr. WILSON.—I suppose cookery is very popular with the children?—I think so.

21626. Do you not think that the whole day must be very wearisome on them?—Well they have practice and demonstration lessons twice a week, and if we put them in for only two hours or so at a time when they have all the things to take out and then to clean up, there would be very little time left for actual practice.

21627. You give them demonstrations, and cause

them to wash and clean up everything themselves?—Quite so.

21628. CHAIRMAN.—I don't quite understand when you say forty lessons, is that forty lessons for the whole of a Friday?—Forty hours, six hours a day for seven Fridays cover it.

21629. Rev. Dr. WILSON.—Do the children make much progress during that time?—They make soup, in fact cook a dinner in the morning, and in the afternoon they take, and there is a great demand for the finished articles.

21630. Captain SHAW.—Do you find it better to give them a course for seven weeks and then not touch it for the rest of the year; have you ever tried the plan of teaching them during the whole of the year?—In a school I was in before this we used to have considerable trouble with children, I was an assistant in the school, and I only knew from the effect on my attendance on the cookery afternoon. The plan was the scholars went for two hours to a central school for cookery, they were taken away for one hour in the afternoon from my class, and one hour they were kept beyond the school day, that is one hour of their own time and one hour of the school time was taken, and the attendance was always low on that afternoon, the parents kept them away.

21631. Ms. STRATHMORE.—That might be an exceptional case?—I think it was a pretty general cause of complaint in Edinburgh at that time.

21632. Captain SHAW.—What classes are taught cooking?—From the fifth up.

21633. You cannot teach them all in the one day?—No, they take it in turns.

21634. But during the year by devoting one day a week you teach them all?—Yes, we begin now and finish generally about the end of May.

21635. Rev. Dr. STARR.—Where do the pupils get the materials for the cookery?—They buy them in the town.

21636. The pupils bring the materials?—Oh no, the cookery mistress buys them, she orders in the things just as a housekeeper would order them in, and distributes them among the pupils.

21637. Then the cooked articles are sold?—Yes.

21638. And I suppose the produce of the sale covers the expenditure?—Pretty nearly.

21639. Mr. STRATHMORE.—Would it be possible to get the children to buy instead of the mistress?—They do the actual buying to the extent of going messages, but of course they are simply told what to get.

21640. And they know the price of it?—I expect they are told; we have a book, as a matter of fact.

21641. Could that book not be kept by the children in turn?—The shopkeeper keeps it.

21642. But as a matter of training for children might it not be a useful thing for the children to keep the book, make the actual purchases, and enter it in proper form?—It would certainly have an educative value, but I never thought of it.

21643. Seeing we have these girls there the whole day on Friday, might it not be possible to have some practical illustration of domestic economy lessons, I presume you teach domestic economy as a specific subject?—Yes.

21644. And in that case it is taught chiefly from a text-book?—I don't think the cooking mistress relies much on the text book. The cookery mistress teaches domestic economy too.

21645. But the girls have a text-book?—They have a text-book.

21646. Do you know whether they are prescribed lessons to get up from it each day?—I fancy they are.

21647. Do you know if there is any practical illustration of the various processes apart from cookery, for instance, those connected with ventilation or cleaning out a room?—I should not think so.

21648. Having the girls there all day on a Friday might it not be possible to associate practical work of

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N.B.

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A.C.

Locke, N.B.

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that kind with the domestic economy lessons?—Yes, I think it would be advisable; they do clean up, but that is all beyond the actual cooking.

21649. Does the grant you receive for the cooking pay the salary of the mistress?—Oh, no, not nearly.

21650. The whole grant you get is how much?—It won't be more than £10.

21651. But that means her time is not fully occupied with the cookery classes?—No, only one day a week.

21652. Because it seems to have been found in other places where the cookery mistress is employed each day, giving continuous lessons, the grant paid her salary?—I suppose it would.

21653. Have you ever thought of utilizing the buildings you have here to provide special rooms for afternoon classes or Saturday classes for pupils who have already left school?—Yes, I believe the County Council thought of that when the buildings were got up, and they were put up keeping that purpose in view, but I believe there is not much demand. We had, however, one class in the school, a dressmaking class, in the afternoon, and there is an evening class at which dressmaking and laundry work are taught.

21654. At these dressmaking classes in the afternoon were there both pupils of the day school and what might be called outside pupils?—The outside pupils were all teachers in the day school, and that has been the case in most of the classes that have been held here. In agriculture, outside the teaching profession, there were very few.

21655. So the teachers learn everything, and the other people they are supposed to teach learn nothing?—That is about it.

21656. It is quite possible the liking for this kind of instruction may grow when they have more experience of it?—I hope it may. There are some country boards, I mean parishes, round about that have spoken of sending their children in here, on Saturdays probably, if we could manage to take them.

21657. Perhaps you could give us one or two facts about evening classes here. What are the evening classes you have here?—The evening classes are continuation classes in connection with the department, and the subjects taught are arithmetic, shorthand, and composition; I think these are the most popular subjects among the men; drawing, too, and among the women they have cookery, we call it domestic economy, but it is really cookery, and laundry work, and dressmaking. There are at present, I think, about thirty women in attendance, and about forty men on the roll.

21658. Any of these teachers again?—No, none of them.

21659. Any other class in the evening school?—No.

21660. No drawing class?—There is no drawing class in connection with the Department, there are a small number taking drawing.

21661. And no book-keeping class?—Yes, there is a book-keeping class.

21662. You said you rather approved of kinder games work in the infant school, and would like to see it extended?—Yes, if we could.

21663. What are the obstacles in the way of extending it?—The want of time.

21664. The want of time in order to get a sufficient number of elementary subjects, or the want of time to meet the requirements of the examination?—To meet the requirements without dropping some of the other work. In woodwork we are taking them in for extra time; we could not keep the little ones in later.

21665. You don't think something could be taken off other lessons to vary the work and relieve the strain from literary subjects all day?—It might with advantage to the children, but I should not like to risk my professional reputation by doing so.

21666. It is an experiment worth making; perhaps your professional reputation might improve?—Perhaps it would from excellent to good.

21667. Rev. Dr. KILMER.—You mean that the pupils would not be well taught if you took something away from the other subjects?—They might not show up so well before the inspector.

21668. Mr. STOUTER.—Do you regard these two things as different?—Yes.

21669. You think it would improve the teaching?—Yes.

21670. But it would not show up so well before the inspector?—They are not things that could be examined on.

21671. That would be an argument in favour of inspection rather than examinations?—Yes, I may say in the matter of geography I have tried the experiment of taking out some of the younger scholars myself for half an hour now and again and calling their attention to the way run run off the road, and when I went to examine on it myself I found there was practically nothing I could examine on. Our examinee here of course we know him very well, and we could depend upon him giving us credit for what we really had done, but at the same time it is too risky I think to make the experiment.

21672. Take that one case, do you think these children benefited by being taken out and shown natural phenomena, although there was nothing to examine on?—I think they would, but they could not put it into words.

21673. That may come later on?—Yes.

21674. Captain SHAW.—You have four courses, could you give us any indication of how they take them up?—They were arranged to suit the requirements of the county, but they have not worked in practice; we have not staff enough to keep them separate. Any boy who wants to take any particular course, gets spare time for the subjects required.

FORTY-EIGHTH PUBLIC SITTING.—WEDNESDAY, OCTOBER 20TH, 1897.

AT 1.30 O'CLOCK, P.M.,

At the School Board Office, Edinburgh.

Present.—THE RIGHT HON. THE EARL OF BELVORE, G.C.M.G., in the Chair; HIS GRACE THE MOST REV. WILLIAM J. WALSH, D.D.; THE RIGHT REV. MESSRS. MOLLOY, D.D., D.S.O.; REV. HENRY EVANS, D.D.; REV. HAMILTON WILSON, D.D.; STANLEY HARRINGTON, ESQ. B.A.; W. R. J. MOLLOY, ESQ.; CAPTAIN T. B. SHAW, and J. STRUTHERS, ESQ., B.A.;

with J. D. DALY, ESQ., M.A., Secretary.

Mr COLIN G. MACRAE, M.A., Chairman of the Edinburgh School Board, examined.

Edinburgh.

Oct. 20, 1897.

Mr COLIN G.

Macrae, M.A.

21675. CHAIRMAN.—I believe you are Chairman of the Edinburgh School Board since the 13th of October, 1896?—Yes, I am, and I have been a member of the Board since 1883.

21676. And you have taken an active interest in the movement throughout the country which has resulted in the institution of technical classes and workshops?—I have.

21677. When and where did you open your first workshop?—It was opened in the Bessie's school in 1893.

21678. I suppose that that was for woodwork?—It was woodwork.

21679. Had you any teaching of woodwork before that?—Well, only in a desultory form, at the instance of one or two headmasters, who began classes for themselves, finding that the work interested the boys.

21680. When did you appoint your present chief instructor, Mr. Graham?—Mr. Graham was appointed in October, 1893.

21681. Is he a practical workman?—Yes, he was trained as a practical workman, I believe; and he afterwards qualified himself as a certificated teacher of drawing.

21682. How many schools with separate woodwork rooms have you?—Sixteen at present, but we expect within a month or so to have three more in new schools.

21683. What is your present number of new schools?—Thirty-two schools, including one that is just opened.

21684. You think it advisable to proceed gradually?—Yes, partly on account of the expense and partly because at first we regarded it as very much of an experiment, and we did not supply all our schools at once.

21685. I understand that some of your schoolrooms are arranged to take both woodwork and cookery, how many of that sort are there?—There are nine in that position, I understand. The way we arrange that is, we provide table-tops for the benches, which can be put on and provide accommodation for teaching cookery after the woodwork is concluded.

21686. What do you do with the tools?—The tools are stored away in the lockers of the benches.

21687. You find that this arrangement works well and saves multiplying the rooms?—It does.

21688. In the other new school rooms, I believe, are provided for woodwork alone?—Yes.

21689. How many workshops have you at present erected outside the school in the playground, and how many situated within the building?—We have seven in the playground, separated from the building, and we have nine situated within the school building.

21690. Could you give me any idea of the cost of the outside room, especially for the purpose of woodwork?—The one you saw this morning in London-street cost about £450, as closely as possible. There was some additional cost in consequence of having

erected it on standards so as to give more accommodation for the playground.

21691. Therefore it would not be quite fair to charge all that expense to the workshop?—No, I think you could erect it cheaper if you erected it immediately upon the ground.

21692. Have you any workshops that are built of wood and corrugated iron?—No, I don't think we have.

21693. To come back to my former question, you had that there are advantages in having some workshops within the school-buildings and some in the playground?—Yes.

21694. Will you tell us what they are?—When they are inside the school buildings they are more under the direction of the staff, and especially of the headmaster, and therefore the discipline is the more easily preserved. When they are outside in the yards there is the advantage that they make no noise, and I don't think it is any disadvantage to the children to move from the playground to their work.

21695. How many boys can be accommodated at the benches at a time?—We accommodate from twelve to twenty-three in the various classrooms.

21696. How many boys at a bench?—Four boys to a bench exactly.

21697. What is the cost of your benches?—They cost £6, and the vices are in addition 12s. each.

21698. What is there peculiar about your benches that make them cost as much as £6, because we have found benches elsewhere generally costing less than half that sum?—We have put up some a little cheaper recently, but the benches, as they were recently constructed, were of the very best quality.

Mr. Graham.—We have patent vices.

21699. They all accommodate four boys?—Yes.

21700. You have not any benches that accommodate only two boys?—No.

21701. You don't know, therefore, what price they would be?—No, I cannot say that.

21702. What do you consider would be the best size for a class?—The Department, I think, expect twenty in each class, and we regard twenty as about the proper number.

21703. Not more than twenty?—Not more than twenty.

21704. What are the advantages in limiting it to twenty?—It is quite a sufficiently manageable number. The teacher can overtake them all with individual attention, if there are less than that, some of the power of the teacher is lost.

21705. And you find at the same time that the class is sufficiently large to enable the whole school to be overtaken with comparative ease?—That is so.

21706. What boys are required to take woodwork?—All above the fourth standard.

21707. Is it compulsory?—With us it is compulsory; but we have no difficulty in that respect, for

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the boys regard it, not as a hardship, but as a pleasure.

21708. And you see working under the Science and Art regulations?—We have been.

21709. What is the minimum number of lessons required by the Science and Art Department for each pupil?—Fifteen lessons.

21710. How many lessons in point of fact do you give to each boy?—If they attend regularly they have from thirty-five to forty lessons in the course of the season.

21711. How many lessons does the Department require of two hours each as a minimum for each school?—Twenty-two lessons of two hours each.

21712. What is your staff?—We have one chief inspector and seven assistants under him. The chief inspector arranges the duties of the assistants.

21713. Is it the case in Edinburgh that all the teachers of woodwork are specialists, or are some of them the ordinary school teachers?—No, they are all specialists.

21714. You think that a better plan than instructing your ordinary teachers?—Yes, our ordinary teachers did take a class of instruction for one session, but we found the practical men, so long as they were able to exercise proper discipline, were more qualified to do the work.

21715. I understand that the Edinburgh School Board is not very much in favour of the central system?—No. It was once tried in connection with cookery, and it was not found very successful; the staff complained of losing portions of their classes for large portions of the day, and the distances they had to walk.

21716. You prefer to teach everything within the walls of each school?—That is so.

21717. You find the discipline better maintained and the two-table more conveniently arranged when all the classes are taught in the same school?—Yes.

21718. How many schools has each assistant under his charge?—Each assistant has two schools, except one assistant who has four smaller schools.

21719. How many days a week does he give to each school?—From two to three days a week.

21720. And how are the classes taken?—From the same boys in relays of eighteen or twenty at a time.

21721. Although you make the learning of woodwork compulsory on all boys in and beyond the fifth standard, it is not felt as any hardship on the student?—No; they regard it rather as a privilege.

21722. And you don't often find a boy asking to be relieved of this work?—No.

21723. In such cases as may occur it is generally from ill-health?—Or constitutional weakness, these are very rare cases.

21724. And you find all boys, irrespective of their wishing to become carpenters or joiners, are willing to take to this work?—It is a rather remarkable fact that we have ascertained on inquiry that by far the larger proportion of boys who take woodwork do not adopt that as their trade afterwards.

21725. You don't teach for the purpose of teaching trades, but your teaching is of a purely educational character?—That is so. We avoid any attempt to teach trades.

21726. Your chief instructor, as I understand, prepared a graduated series of exercises which begins with simple exercises, and leads up to more advanced work, and you adopted this system?—Yes.

21727. It is not exactly the Sloyd system?—No, but it is based on it.

21728. What do you exactly understand by the Sloyd system?—I understand, for one thing, that they use a knife a good deal more than we do.

21729. You mean in Sweden?—Yes.

21730. Well, they use the knife in the first few exercises, but only in the first few exercises, except just occasionally to finish off curves, but not nearly as

much as people imagine in this country?—We think it desirable to teach them the use of tools.

21731. That is taught, too. Their principal instruction is not so much to make articles as to inculcate the principles which underlie all handwork?—Yes. We wish especially to familiarise the boys with the use of tools, and give them accuracy of observation and correctness of hand and eye, and general deftness in handwork.

21732. And you find that it is very difficult to accomplish that without practice?—Yes.

21733. You make a great point of drawing as an essential part of the woodwork instruction?—We consider drawing absolutely essential.

21734. Every pupil, I suppose, has to draw his work first with his own hands?—Yes. Two hours are occupied out of every eight in drawing, and the other six hours in finishing the article from the drawing.

21735. The boy does not copy his own sketch, but copies from the copybook?—No; that might be faulty.

21736. But still he has drawn?—Yes, and knows exactly what he is doing.

21737. What becomes of the articles the boys make?—They are always sold to the boys at the price of the wood—a rare trifle.

21738. I think you have a table showing the number of boys who receive woodwork instruction?—I have taken a note of the number. The total number of students in the various standards are: In the sixth, 164; in the sixth, 393; in the fifth, 753; that is, 1,362 in all, and 103 which we have taken out of the fourth, in cases where the boys are, perhaps, a little backward and over age, and where there is room for them. We don't get any grant for these, but we think it due to them to give them some opportunity.

21739. You don't think that teaching woodwork detracts from the results of general education on the one hand; or, on the other hand, you don't see that it makes very much difference in improving education?—No; we are quite persuaded it does not detract from the general education, but it is not very easy to prove whether it does them any great good in regard to their general education; although one is entitled to assume that the additional education which it involves does sharpen them and improve their intellect.

21740. You find that some of the boys who are not very good in literary studies are the best in handwork?—That is often the case.

21741. It stimulates them and makes them feel they are able to do something?—Yes.

21742. What are the tools you use?—We use the ordinary workmen's tools, such as are used in a joiner's shop in this country—the plane, saw, and chisel.

21743. You use smaller ones?—No; they are the usual size.

21744. I did not mean that they were smaller for the boys, but the smaller tools that workmen use?—Yes, we do.

21745. Do you regard this kind of instruction as tending to keep children longer at school?—I think it has that tendency.

21746. And among the work which you think has that effect, you include woodwork, laundry work, and cookery?—Yes. I think where the children have the impression that they are learning something that will be of value to them in afterlife they are more inclined to stay.

21747. Do you find that the weakness of the primary school system in Scotland is that the children leave you too soon?—We think so.

21748. And you think that anything that would induce them to remain a year or two longer should be encouraged?—Yes.

21749. And you consider that this sort of work does encourage them?—Yes. Possibly if there was a higher grade school in Edinburgh, which was laid out more

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for the purpose of practical and technical instruction, it would be of use for the industrial classes—the children of the industrial classes.

21750. You mean for children who have left the ordinary school work?—Well, for children who are willing to proceed a little further than the compulsory standards.

21751. Are the people of Edinburgh rather afraid of the expense?—Yes; we have met that difficulty sometimes in connection with matters of progress.

21752. You think if the matter were better understood they would be willing to pay a small fee?—I think many of the parents would be glad to do so.

21753. Most Rev. Dr. WALKER.—Is the tendency to enlarge the scope of woodwork teaching in the Edinburgh schools or to diminish it?—I think to enlarge it.

21754. I find by your School Board report for the year 1895–96 that twelve out of twenty-nine schools under the Board had classes of woodwork instruction. Has that number since been increased or diminished?—We have now sixteen, and we are expecting three more in a few weeks to be opened—that will make nineteen out of thirty-two schools.

21755. So that both the number of schools and the proportion of the schools having this branch of instruction is increasing?—The proportion is increasing.

21756. May I call your attention to some passages in the Edinburgh School Board Report. I find in the report of the Castle Hill School the headmaster says: “I should like again to refer to the need there of provision being made for manual training to the boys in the three higher standards.” That was a school, I take it, in which provision for woodwork had not been made at the time of the report?—That is so.

21757. So that, even in schools where provision has not yet been made for this branch, there is a desire to have the provision made?—Yes. I think that is very general.

21758. In the report of the Lothian Road School it is stated: “The woodwork class has again been attended with much success.” In that school the work has been popular with the boys of the upper standards?—I had no.

21759. And that is the general state of affairs wherever woodwork is taught?—Yes.

21760. I find it stated in the report of the Miln House School that “the boys take great delight in the work, and have made very great progress”?—Yes, that is so.

21761. In another report—that of the South Bridge Street School—the headmaster says: “The manual training class, in my opinion, counteracts to some extent the tendency to leave school at the early age complained of.”—That is exactly what I am saying.

21762. You have never found that the introduction of this branch has had the effect of driving the children away from the school?—Certainly not, the reverse.

21763. The manual training never had to encounter any opposition from any mistaken notion on the part either of the children or of their parents, that what children go to school for is to learn things out of books?—I don't think that is so.

21764. The Edinburgh people have sounder views of education than to fall into an error of that sort?—I should hope so.

21765. In the report of the Stockbridge School I find the statement: “The woodwork lessons continue to be highly appreciated by the boys, who are rarely absent when it happens to be their day for this lesson.”—There is no doubt of that.

21766. Now, there is another aspect of the case. I find that in the Edinburgh schools, of recent years, there has been an improvement in the attendance in two very important respects. One is that there is a larger percentage of children now remaining for the

sixth standard than remained before. You consider that this is partly due to the fact that this new branch of instruction has been introduced?—Yes; that is my opinion.

21767. I find that in 1890–91 there were just 40 per cent. of the children in or above Standard V, but last year there were 49 per cent. That is a very important increase?—Yes.

21768. Has it not also been found that the percentage of children over thirteen in the upper standards is improving?—Yes, but not quite so rapidly.

21769. I find, taking the same years, that in 1890–91 the percentage of children over thirteen in and above standard V. was 28; and it is now 45·1?—Yes, but the numbers were very small at that time.

21770. No doubt. But you attach great importance to this particular increase?—We do, very much.

21771. I believe you complain that there is a tendency on the part of parents to take away their children from school at too early an age?—Yes, we suffer from that very much.

21772. What is the standard of exemption from the compulsory attendance?—They can obtain a certificate of exemption after passing the V. standard.

21773. I have seen it stated that last year there were over 600 children presented and passed in the V. standard who were only eleven years of age?—Yes, the majority of children passing the V. standard were only eleven years of age.

21774. At what age do the children in the schools here begin to learn the use of tools?—I fancy the average will be at eleven years of age.

21775. The average. So that a number of them begin before that?—Many of them before it, but that will be the average age.

21776. Then you here, in Edinburgh, do not consider that it is physically impossible to teach the use of tools to a child before eleven?—No, not such work as they are called upon to do.

21777. Your experience here of course proves the contrary?—It does.

21778. And proves that it is not merely physically possible, but that it is fairly easy?—Yes, and that they take it up and understand it thoroughly.

21779. Have you any idea what this branch of school work costs in Edinburgh?—The total cost to the Board is £2610, made up in this way—salaries of instructors, £1750, and the cost of materials, say 1s. per pupil on 1,400 children, £140; then we receive a grant at 2d. per thousand per week for 52 weeks on 1,400 pupils, £496, and 30 per cent. for the “excellent” grant, £299, in all we receive £595, leaving the actual net cost to the Board, £2215.

21780. And that is the net yearly cost of this work for all the schools under the School Board of Edinburgh?—Yes, that to some extent depends on whether the schools are fully occupied, if anything happens to prevent this being quite fully occupied there might be a slight decrease.

21781. This educational woodwork, I think you have said, is now compulsory in the Edinburgh Board Schools?—Yes.

21782. That is, the attendance at the class is compulsory in any school in which this branch has been introduced?—Yes.

21783. Was it compulsory from the time you first introduced it?—I think we have always, since we created a workshop, insisted on the boys of the upper standard taking it up.

21784. Did you find any difficulty at first in introducing it?—I don't think so.

21785. Neither on the part of the parents nor of the teachers?—No, it was very popular from the first.

21786. Before it was introduced, were any steps taken to explain to the teachers what the object of this work was, I mean, to explain that it was educational, not merely industrial?—Yes, I think the chief instructor makes a very strong point of letting them understand that—that it is purely educational and not industrial.

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Macdonald, Esq.

21787. Is there not something of a drawback in your Edinburgh system of having the teaching of woodwork in the hands of a set of teachers distinct from the ordinary teachers of the school; is it not likely to suggest to the pupils, or to the public, that this branch is something that lies outside school work properly so called, and is connected with industry or trade, rather than with education?—That may be so, but, on the other hand, the teaching I am satisfied at present is better done by special instructors who are conversant with manual work, the teachers in the normal colleges are not trained to it.

21788. But suppose the teachers were trained to it in the normal or training colleges, which kind of teacher do you think more likely to teach well in the ordinary school—a trained teacher specially and properly trained in this branch of school work—or an artisan?—Assuming they have equal capacities and practical knowledge of the woodwork, the trained teacher would have the advantage.

21789. Inasmuch as he would have a better grasp of the general principles of the art of teaching?—Yes, that is so, but at the present moment I don't think that they have the same practical acquaintance with the subject.

21790. But my question goes exclusively on the supposition that the necessary special training was provided for the ordinary school teachers?—Yes, I quite agree with you.

21791. This, however, throws no discredit on your present teachers of woodwork—at present the work is in the hands of artisan teachers, and it is done perfectly to your satisfaction?—It is.

21792. I think you said there was some difference between your Edinburgh system of school woodwork and the Sloyd system?—There is not a great difference.

21793. By the Sloyd system you probably understand that special form of instruction in wood that is practised in the schools of Sweden?—Yes, that is so.

21794. Well, I always prefer speaking of that as Swedish Sloyd. May we not call your system Scottish Sloyd?—I think that is a very good term.

21795. One of the differences between the two is, that the knife is largely used in Sweden, whereas you teach rather the use of formal tools?—Yes.

21796. You are, perhaps, aware that the reason why the Sloyd knife is used in the Swedish Sloyd system is that it is one of the ordinary Swedish tools?—Yes.

21797. So that, as to this point, there really is no difference in principle; it is only in the application of the principle; the use of tools is taught in both countries, and it is only because the Sloyd knife is a common tool in Sweden that its name is so much insisted on in the Swedish Sloyd; so far, then, you don't differ in principle from the Swedes?—No.

21798. You have said that you attach great importance to this woodwork on account of its making the children handy; how is not the further advantage of training them in habits that have a far wider range of application than mere handiness, or the sphere merely of that manual work considered in itself—habits of accurate observation, for instance?—That is very important.

21799. And a sense of the importance of accuracy even in small things, and of attention even to minute differences, and general neatness and tidiness—all of which would be of use to them, whether they afterwards become workers in wood, or workers in any other material, and even if they have nothing to do with manual work, but become members of one of the learned professions?—Yes, we feel that very much, and we are very particular about the accuracy of the work.

21800. Your School Board report speaks very highly of the kindergarten branch of education in the school?—Yes.

21801. You have no intention of dropping the kindergarten work?—Not at all.

21802. You don't find that it tends to make the children backward?—No.

21803. You don't find that the children when they have passed through it, on to the ordinary school work, would be better prepared for that work if they had come in off the streets, without having had any preliminary education of any kind, than if they came, as they do, from the kindergarten training?—Not at all.

21804. It would surprise you, perhaps, to hear that when we were taking evidence in Dublin, a statement to the effect suggested by the question I have put to you, was made by a teacher of great experience?—Well, I certainly would not expect to hear that.

21805. Supposing the teacher was telling the truth, as we must assume he was, what conclusion would you draw from his statement—would you not infer that the kindergarten department must have been very badly managed in the school from which the children came on to his school?—Yes, it could not be the kind of kindergarten we are accustomed to.

21806. And I suppose you would infer that it would be the business of the Education Board in Ireland to look very closely after that particular school where the kindergarten training is thus publicly represented as of such a backward, and indeed harmful, kind?—I would think so.

21807. Now let me ask you about book-keeping. Book-keeping, I am, is taken as a specific subject in only four of your schools. There is perfect freedom on the part of the teachers to take up book-keeping as a specific subject?—Yes.

21808. It has never, of course, been proposed to make book-keeping an obligatory subject for boys in the Edinburgh Board Schools?—No, we found it a popular subject.

21809. But still it is taken up in only four schools in Edinburgh, whereas woodwork is taken up in many?—It will be in nineteen.

21810. Magnifier Maker, or—How long is it since manual training in woodwork was introduced into the schools under the School Board of Edinburgh?—It was in 1862 we first established a workshop.

21811. And, consequently, the evidence you have given is founded upon the experience of five years?—Of five years.

21812. At first you did not introduce it into all the schools where it now exists?—No, we regarded it very much as an experiment.

21813. And the experiment, being successful, you extended it until it now reaches nineteen schools?—Yes, that is so.

21814. Is cookery taught in many of the schools under your Board?—It is taught in them all.

21815. How long is it since cookery was first introduced?—Just about twelve years ago, I think.

21816. Then, with respect to cookery, you have the experience of a period of at least ten years?—Yes.

21817. And the result of that experience is that you have been disposed rather to extend it than diminish it?—Yes.

21818. You have given us the figures of the absolute cost of the introduction of manual training, and it amounts to the net sum of £235 a year, making allowance for the grants which you get?—That is so.

21819. From what body do these grants come?—The Science and Art Department.

21820. And the grants amount to considerably more than half the total annual cost?—About two thirds.

21821. At the present moment the total cost for 14,000 pupils is £235 a year?—Yes.

21822. Could you say approximately what proportion that bears to the total cost of your schools?—I am afraid I could hardly give you the figures now.

21823. Well, we can get them afterwards, but it is, I suppose, a very small proportion of the total cost. Is addition to that money you would have to spend on

money in building and providing tools?—Yes, and materials.

21824. The materials are allowed for in the sum of £70 a year?—Yes, that is so, the tools and the workshops themselves is the only additional expense.

21825. Now, with regard to the effect of the manual teaching, you said that you were quite convinced that it has not interfered in any degree with the proficiency of the pupils in the ordinary subjects of the school course?—That is our experience.

21826. But you have not distinct proof that it has contributed to improvement?—It is difficult to ascertain that.

21827. That refers to the pupils while they are in the school; but with respect to their subsequent career, do you consider that the introduction of manual training has fitted them better for their work in life?—Well, I am afraid that we must only hope, for I don't see how we can prove it very well, no doubt many of them have entered into trades, and so far as we know they are doing well in their trades, but it is not easy to follow them after they leave school.

21828. I did not mean to ask you for statistical evidence, but what is your opinion—do you think that those trained in manual work are better equipped for after life than if they were not so trained?—Undoubtedly.

21829. They have certain faculties trained which otherwise would have been left untrained, and these are faculties of great utility in their ordinary life?—Yes.

21830. You have said that the woodwork is popular with the boys—was it popular with the parents?—I think it is, I think they look at it from a practical point of view as being useful.

21831. Is the same true of cookery?—Undoubtedly, cookery is popular with the parents.

21832. Did you find there was any opposition on the part of the parents when these subjects were introduced first?—No, we had no opposition from the parents at all.

21833. Not since?—No.

21834. And do you think that the parents now are better pleased to have manual work taught to the boys and cookery to the girls than to have them omitted?—Undoubtedly.

21835. So that your experience is, that parents when they become accustomed to these subjects are not unfavourable to them, but are favourable?—No, I am satisfied that the population of Edinburgh like to see these technical subjects extended.

21836. Most Rev. Dr. WALKER.—Still, I suppose, they would be very glad if someone else would pay for them?—That is the only question that would arise.

21837. MESSRS. MOLLAT.—I don't think you have been asked whether the elements of physical science are taught in your schools?—Yes, elementary science is taught.

21838. In all the schools?—Yes, it is compulsory. It is a class subject; they have a choice of class subjects, and it is left to the headmaster to select.

Most Rev. Dr. WALKER.—It is taken in six schools.

21839. MESSRS. MOLLAT.—Have you what are called continuation schools under your Board?—We have evening schools, which we call continuation schools.

21840. What class of pupils attend the evening schools?—The older lads and girls who have left school and desire to continue their education.

21841. Is woodwork taught in these evening schools?—Yes, in two of them.

21842. Mr. STRAIN.—Cookery is taught in more?—Yes, four or five, I think.

21843. MESSRS. MOLLAT.—With respect to the training in woodwork, do you think that in addition to the ordinary educational advantages of it, there are special advantages for those who afterwards go to technical schools?—Yes.

21844. That they are better prepared to profit by

the teaching in technical schools?—Yes, in technical schools we think they have a great advantage.

21845. Rev. Dr. WALKER.—Is your School Board confined to primary education?—It is primary education with the specific subjects taught in the higher standards.

21846. Is Edinburgh placed under an Act for compulsory attendance?—It is.

21847. Do you find any difficulty in getting all the children to attend?—There is naturally some difficulty, but a very large proportion of the children attend without trouble; we have an average attendance of about 86 per cent.

21848. You commence kindergarten with the younger children?—We do.

21849. How long do you continue to teach kindergarten?—In the infant department.

21850. Mr. STRAIN.—That includes standard I?—Yes, in most of the schools.

21851. Rev. Dr. WALKER.—We found in some places a desire to extend it higher up?—I think there might be something to bridge over the gap between kindergarten and technical education that we have been speaking of, such as wirework or clay modelling.

21852. Mr. MOLLAT.—Could you give us information about the house that children receive instruction in woodwork?—Every lesson consists of two hours and they have it twice a week.

21853. At what time of the day? Is it after the ordinary school hours?—Most of the children are taught during the ordinary school hours, but there is one class extends for an hour later; you fill up the day with six hours, and necessarily they extend a little over the ordinary school hours.

21854. All the pupils in standards V, VI, and ex-VI would not be away from the regular teachers of the school?—No.

21855. Only the relays of pupils who go to the woodwork?—I believe it is practically arranged that a child is only away once in three or four weeks from the other lessons.

21856. On the days that they receive that instruction, how much longer are they behind the other pupils?—About an hour.

21857. They attend that willingly?—Perfectly; the children are delighted to stay apparently.

21858. Are all the School Board schools mixed schools, of boys and girls?—They are, but we have infant departments separately.

21859. And you have a large staff of teachers, I see, close on 900?—Yes, including pupil teachers.

21860. £1 2s. 11d. was earned per child?—That only from the Elementary Education department, does it also include the Science and Art grant?—Yes.

21861. Are all the children free?—They are all free.

21862. Are they supplied with books and apparatus free?—Yes, we supply them with books.

21863. And those tools we saw?—Yes, they get them too.

21864. Are there any voluntary schools in Edinburgh not connected with your School Board?—There are; there are two practising schools under the charge of the training college, and there is one elementary school under the Merchant Company, and there are one or two small seasonal schools still left.

21865. Mr. STRAIN.—There are three practising schools?—Yes.

21866. Mr. MOLLAT.—Is instruction in woodwork carried out in the practising school of the training college?—No, it is not.

21867. Your specialists then derive their information in this particular branch—where, pray?—The chief instructor has visited many of the academies of Europe and most of the offices of England.

21868. Captain SNOW.—Are your workshops fully occupied during the week?—No, many of them are used for cookery also, they are fully occupied with

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the two subjects, but we have not enough children in the schools to occupy the workshop for a whole week.

21865 That makes the expense of instruction rather greater?—Slightly so, but the instructor who has charge of that class goes to another school during the day that he is not employed in the one school.

21870 So the instructor's time is fully occupied?—His time is fully occupied.

21871 Did your instructor get any instruction in pedagogy?—Not the assistant instructors.

21872 Do the ordinary schoolmasters ever go to the manual workshop with the children?—Yes; I think the head-master specially makes a point of looking after the workshops.

21873 But you find no difficulty in maintaining discipline?—No, we were rather gratified and almost surprised to find that our assistant practical workmen were able to maintain discipline perfectly, and we ascribe that very much to the fact that the boys like the work and are willing to submit to discipline.

21874 A good many children can obtain bonuses at secondary schools here?—They can.

21875 But if children are going to stay only one year more in school life, which is preferable, that they should go to a secondary school or remain in the Board School?—I think it is preferable that they should stay in the school in which they have been educated.

21876 And you think that practical instruction induces them to spend this year in the school?—That is my opinion.

21877 Do you teach any other technical subjects besides manual work and cooking and laundry?—I see there is shorthand put down in one school?—Yes, we teach shorthand in the evening school, we teach sewing and drawing.

21878 Is drawing universally taught?—Universally taught.

21879 There are specific subjects under the Board—Latin, French, German, shorthand—are those all taught?—I think you will find some of them, not very much, made use of, but they are all taught.

21880 Have the Board considered whether such a subject as shorthand should be taught in an elementary school or continuation school?—I don't know whether the Board have considered it, but my feeling is that it is more suitable to a continuation school.

21881 What are the average school hours?—From nine to half-past three, with an interval of an hour from half-past twelve to half-past one.

21882 That is five and a half hours a day. When the manual instruction was introduced you took off one hour from the ordinary literary instruction?—It takes two hours in the case of most of the children once a week.

21883 Did they have to drop any of the other subjects of instruction?—Those children have for a time to give up the subject in which they are being taught.

21884 They don't discontinue it entirely?—No, they make up at the next lesson.

21885 And you have not noticed that these two hours less work which they did at the literary work lowered the standard?—No, the head-master informed me it has not done so.

21886 Mr. HARRINGTON.—Do the schools continue mixed all through?—All through, up to the highest standards.

21887 What is the special advantage that you found here in having them mixed?—It is unusual, is it not?—Well, it has always been the practice, and we think that it ought to have a mollifying effect upon the young lads to be with the girls.

21888 You don't find that the boys pull the girls' hair or anything of that kind?—No, they have different playgrounds.

21889 I mean in the school-room?—As far as I can learn there is nothing of that kind to any extent.

21890 Rev. Dr. EVANS.—There are some other

subjects taught in your schools distinct from the manual instruction about which I have not been fortunate to hear anything, clay-modelling for instance, is it much taught?—No, it is not taught as a subject; I believe in some of the schools it is taken as a voluntary subject—it is just an extension of the kindergarten if it is taught at all.

21891 Is cardboard work taught?—It is in very much the same position.

21892 What about the brass-making?—I don't think they teach that at all.

21893, I think it is mentioned in your list?—It is brushwork with a hair pencil.

21894 Then what is basketwork?—Very much the same, it is just an extension of the kindergarten system.

21895 And straw or cane weaving or plaiting?—Yes, we don't go beyond the kindergartens.

21896 That is all kindergarten?—It is all a high-up form.

21897 Well, you told us, I think, that there were some 1,400 children altogether learning manual instruction?—Yes.

21898 How many of those are presented for examination?—They are all presented.

21899 Is 1,400 the total number on the roll?—That is the present number who are taking woodwork; they have no individual examinations—the classes are passed if the results are thought good.

21900 Then what is the meaning on page 19 of your report, of "number presented at examination"?—Yes, those are the numbers present on the day of examination, it is another way of putting it.

21901 Mr. SHERRIFF.—I think you introduced these various subjects, the kindergarten and the woodwork, in the higher classes by way of experiment?—Yes, that is so.

21902 To obtain certain results which you have already described in answer to his Grace?—Yes.

21903 And you have found that that experiment has been so far successful?—Yes, we have.

21904 Without any loss to the efficiency of the work in the ordinary subjects?—We think so.

21905 Have you no positive opinion that the work has improved in the infants' department?—My own feeling is that it has improved, that the kindergarten has had a good influence.

21906 How not the general tone of reports on the infant department been more favourable since the introduction of kindergarten?—Yes.

21907 In spite of a good deal less time being given to the ordinary subjects?—Yes.

21908 And you are quite sure there has been no falling off in the efficiency of the literary work in the higher standards in consequence of the introduction of woodwork?—Yes.

21909 So that you have probably arrived at a stage when you might extend your experiment to an intermediate class?—I should like to see that.

21910 Work, such as cardboard and woodwork, is intended to achieve the same object you have already achieved in the infant and higher department?—The only difficulty is we are so overburdened with subjects, the difficulty is to squeeze or wedge in any other subject.

21911 You have put in corresponding subjects for the youngest and the oldest children, do you think the children in the intermediate subjects require more time for their literary work proportionately?—I don't know that I would say so, but no doubt their time is fully occupied at present.

21912 I dare say the same question was expressed when kindergarten was introduced into the higher classes?—You may argue from analogy.

21913 I think you said you were in favour of removing a number of subjects from the ordinary school curriculum to the continuation school?—Yes.

21914 Such subjects as shorthand and typewriting?—Yes.

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21915. Dressmaking?—I don't know about dress-making; we have one or two schools where it is carried out with great efficiency.

21916. Rather these subjects might be confined to the evening schools, or you might have a day school with a higher department in which these various branches might form an important part of the curriculum?—That is what I would prefer to see.

21917. Such a school would be very useful practically?—Yes, I always feel that the evening schools labour under a great disadvantage in taking the children after a hard day's work, and you can make less impression on their minds at night.

21918. And there are a considerable number of children in Edinburgh from 12 to 15 who would prefer to go to a secondary school, but might attend a school of this kind if satisfactory instruction were given?—I think they would.

21919. You have no statistics whether any of the boys who have been taught manual work have gone on to a technical school, such as Heriot's or the Heriot Watt College?—No, we have not.

21920. To-day I found that one boy who had two years' instruction in woodwork has now left school and become an engineer?—Yes.

21921. And I saw his drawing, which he had done for his woodwork; it was clearly of a kind that must have given him an enormous advantage on entering as an engineering apprentice?—I think it would be most interesting to follow the boys.

21922. It would be possible to get a collection of such cases?—Yes.

21923. And that would be a good proof, if it should turn out favourable, that this form of teaching was a great advantage?—Yes; I am much obliged to you for the suggestion.

21924. Drawing is a necessary part of the manual work?—Yes.

21925. It is of a different kind from the ordinary drawing taught in the day school?—Yes.

21926. Do you think it is necessary to have free-hand drawing continued alongside this special woodwork drawing; might not the time be reduced that is given to those two forms of drawing by substituting this woodwork drawing to a certain extent for the ordinary school drawing?—I would think so, but perhaps I am hardly warranted in so speaking.

21927. You are quite clear that it is better to have a workshop attached to every school rather than have centres to which children are brought?—Yes, that is the feeling of the Board.

21928. You are quite clear that it is better to have special teachers who will teach this subject and nothing else?—Yes, that is my opinion.

21929. Seeing the time of these special instructors would be fully occupied. For instance, you say that a child leaves a class in arithmetic or geography or grammar on a certain day in the week for his woodwork instruction, but the class goes on as before because his teacher remains there, whereas if you took one of the ordinary standard teachers that class would have to be dismissed or taken after him?—Yes; you would not know what to do with the remaining scholars who were not engaged in woodwork.

21930. That being clear, we come to the point as to whether it is better that special teacher should be an officer, pure and simple, or a teacher who has become more or less skilled in handicraft?—Yes.

21931. You have not seen this volume of evidence?—I have glanced at it.

21932. You will find some very interesting statements on that point as to—for instance, at Birmingham,

Mr. Burns, Director of Manual Training, says: "What have you to say as regards a comparison of 'trained teachers with artisan teachers?—That only 'refers to Standards 5 and 6; I should prefer to take 'a trained teacher and train him to the practical 'work, than I would to take an artisan and train 'him to the teaching. One reason is, because an 'artisan, when he comes to a school, is of such an age 'that you scarcely can train him to teach or to 'manage children. There are exceptions." And then he goes on to state that, And Mr. Pearson, the Director of Instruction at Liverpool, is of precisely the same opinion?—We must take things as we find them at present.

21933. I thought you put it that the artisan teacher is to be preferred generally? But you are satisfied that the work, as you are carrying it on, is extremely useful?—Yes, and in the meantime, I think, we find the practical teacher is more capable to teach woodwork.

21934. You spoke of a large number of children who leave school after standard 5; I think at page 7 of your report you say that number is diminishing? "From the following statistics it will be seen that the percentage of children under 12 years of age in the fifth standard is rapidly becoming smaller?"—Yes.

21935. That is to say the children are not leaving school at 11 years of age so much as they did?—Yes.

21936. Rev. Dr. WILSON.—Are you not favourable to having centres for teaching woodwork or cookery, and schools coming to those centres?—They, no doubt, are necessary in some cases, but they are attended with a good deal of inconvenience, and we believe there is less inconvenience and more profitable instruction given where we can teach them within our own walls in each case.

21937. Where you have such large schools as you have in Edinburgh, but that is the difficulty?—Yes, I can understand that it might be inconvenient in other towns.

21938. Most Rev. Dr. WALSH.—At page 16 of your report there are some figures that it would be well to have cleared up. There is a table giving the results of the "Leaving Certificate" examination. It strikes me that there is a very large percentage of failures. I don't wish to go into the figures in detail. I may just put this one point to you—Does this really represent the work of the elementary schools of Edinburgh?—Well, the failures are due to the fact that the Leaving Certificate, for one thing, is a comparatively new institution, and they put forward pupils who have been in other schools, but really have very little prospect of passing.

21939. In the first place, is it not a fact that a great many of these pupils are examined from higher schools?—I mean secondary schools? I will take one particular figure—320 pupils were examined in English, and of these, two-thirds failed and only one-third passed—that is, 110 passed, 220 failed, and in arithmetic, out of 498 examined, only 225 passed and 275 failed?—I think your Grace must remember that the Leaving Certificate, after all, is a certificate which is foreign to a primary school—it is a secondary school certificate.

21940. That is what I suggest. Is it not also a fact that many of the better educated children of your primary schools are drawn away by some other examination, you have these two schools, the Heriot schools?—It is quite true; they have to compete for bursaries at various parts of the year.

21941. Then, so many of the more promising class of children being taken out of this examination, it would not be at all fair to take these figures as representing the work of the elementary schools of Edinburgh?—No, that is quite so.

Edinburgh.

Oct. 19, 1897.

Mr. Alexander Gray.

Mr. ALEXANDER GRAY, Member of the Edinburgh School Board, examined.

21942. CHAIRMAN.—I believe that you are a member of the School Board of Edinburgh?—Yes, my lord.

21943. And, I think, you can give us some information as to the cost of providing workshops and tools and so on in connection with the manual work?—The information I have is very much what Mr. Macrae has given.

21944. There are some points of detail which we would like, particularly as regards the minimum cost at which you think workshops could be erected according to the number of pupils to be taught, and the cost of providing tools, and so on?—I have got information here from our architect, and he makes out that the cost of a workshop is somewhere between £400 and £700—a complete workshop, fitted up with tools.

21945. What sort of a workshop?—Built of stone and fitted with benches, such as described by Mr. Macrae.

21946. We saw some workshops in Birmingham which were not built of stone, but built of wood with corrugated iron roofs, and they appear to have been provided at a lesser cost. Have you any experience of any shops of that kind?—We have never put up any shops of that kind. Of course, stone is the material of the country, and comparatively cheap here, and more substantial and economical.

21947. In the case of Ireland, where money is not very plentiful, and the schools are not large, our great wish is to find out how cheaply a second building can be erected?—I don't think you could put up a school for very much less than £400. It might be done for that.

21948. Well, a teacher told me the other day that, working with his own hands at it, he put one up for a very small sum, indeed. Perhaps that is hardly a fair test, but we hope to do it for a smaller sum than £450. We should not want a very large one for a class of twelve?—Mr. Macrae has spoken upon all the points, I think, but there was one thing I would like to mention to you. The one great advantage of these workshops is this, that it helps boys to choose the employment they are best fitted for. A number of boys do not know what occupation to choose, but when they have been a couple of years in the workshop they can tell at once whether they have got a liking or an aptitude for anything with their fingers, and that, I think, is a matter of considerable importance. I think you spoke of a school not having a workshop on Canabhill. I would like to mention that the building committee for two years have been trying to find accommodation for a workshop; we think it so important for that school we would do almost anything for accommodation for it, but we could not succeed. Then I would like also to mention that although book-keeping is not a special subject with us in very many of our schools, yet it is taught in many of our schools. Many of them teach it to a greater or less extent. Then in some schools the manual instruction is carried on from kindergarten right on to the workshop. That is the aim of some of our teachers, and we hope it will be carried out to a considerable extent before very long.

21949. Meet Rev. Dr. WALLIS.—In the absence of some provision for manual instruction in the schools, is not the ordinary school course apt to suggest to children the idea of becoming clerks, or possibly messengers, rather than of turning to a trade, or taking up some form of manual work?—It is so.

21950. There is nothing in the ordinary school course to suggest to them that it is a desirable thing to begin to work with their hands?—That is so.

21951. Although a great many of these children, and probably the vast majority of them, will necessarily have to work with their hands, if they are to support themselves by honest industry at all?—Yes.

21952. The introduction of manual instruction has the effect of putting the two views of the case before the pupils' minds?—That is so.

21953. They get a certain amount of book instruction and a certain amount of practical instruction, and their minds are thus opened to the fact that there are two lines of occupation in life?—That matter you first mentioned is accentuated by the fact that boys get bigger wages when they go as messengers or clerks. Better wages at the beginning, and very much lower at the end of their career, and children are attracted by the immediate advantage.

21954. Then it is important to have something that will give them a bend in the other direction, or that, at all events, will in some way turn their thoughts in the direction of practical work?—Yes.

21955. CHAIRMAN.—I see that Mr. Bevan, the Director at Birmingham, stated that the building we had seen cost about £400. He then went on to say in answer to a question by myself—“Then there would be an initial expense in a case of that sort at any rate of £450 for the building and benches, before you began to provide other tools or materials.”—His answer was—“If you build on to a school you will get it very much cheaper. You are entirely a separate building. It is a good building. The foundations are good. You could build one for £350. That would answer the purpose very well. It is a case where you can spend as much as you like.”—By building it up against another building; you would save money in that way.

21956. Messrs. Monitor.—Perhaps you could tell us, sir, what is the cost per child, taking all your schools together, for the education which they receive?—The annual cost. I understood it was approximately about £3 per child.

21957. It would be the total cost divided by the number of children?—On the average roll, £3 4s. 4d., and on the average attendance, £2 13s.

21958. It is £2 13s. per pupil on the average attendance?—Yes, and the average cost to the ratepayers is £1 3s. 0½d., the difference being made up of grants.

21959. Then the portion of the cost represented by the manual training is, as we had before, £225 for 1,400 pupils, which I make up to be 3s. 2d. per pupil?—Yes. I would like to mention that the cooking does not cost the ratepayers anything. The grants we can pay for all the cost of the cookery instruction and everything.

21960. The principal cost of the cooking is the payment of the teachers?—Yes.

21961. And that is covered?—That is covered by the grants from South Kensington.

21962. So that, so far as the ratepayers are concerned it costs nothing?—It costs nothing.

21963. Mr. Monitor.—May I ask you what are the various sources of income of the School Board?—We have the Government grant, the grant in aid of 5s., the grant for specific subjects, and, of course, the charge on the rates.

21964. What is the charge upon the rates?—3½d. in the pound.

21965. Is that regarded as very high?—Well, it is regarded by the ratepayers as very high, but, as compared with other towns it is not very high. The ratepayers think we have so many endowed schools here that we ought not to have so heavy a rate.

21966. At Harnsey, near London, we found it was thirteen pence?—Yes, we see lower than Dundee and very near Glasgow.

21967. May I take it the average number of pupils on the rolls for the year is 20,000 in round numbers?—Yes; that was an average of seventeen years. There are 30,000 on the rolls now.

21963. Have you any idea what the number on the rolls is of the voluntary schools outside the operation of the School Board?—It is a very small number.

21969. In proportion to the population of Edinburgh, what number of pupils are under instruction—one in five, or six or seven of the population?—Well, I don't know that. There are 32,500 children in the Board Schools.

21970. Captain SHAW.—There is a reference in your report to a system of prizegiving. Could you explain what it is?—We instituted prizes for regular attendance. We settled that there would be a prize given to every child who made a perfect attendance during the year, and that worked exceedingly well.

21971. It says here only as regards people who attended regularly before?—That means the people who were in the habit of coming to school regularly got regular habits, the prizes did not matter to them.

21972. I think your statement is the other way, that it is only those who came regularly before that won the prizes?—The bad ones were not much influenced by the prizes, because when they were unable to come in for one day they got discouraged at the beginning of the session and did not exert themselves.

21973. Is the prize of any value?—We began at 6s., but so many children earned it we brought it down to 3s. 6d., and there are some of these even lower.

21974. Mr. HARRINGTON.—It has been stated by a teacher in a prominent position in Ireland, that he considered one of the objections to the introduction of manual work was that it was meant for boys of a tender age, ten or eleven, and it would be physically impos-

sible for them to handle the tools and so forth at that age; is that your opinion?—Not at all.

21975. You think that objection is quite groundless from your experience?—I think so, the tools are very light, they are not heavy. I have seen no evidence of that whatever.

21976. In no way you consider it a hardship on the children?—Not the least, they are delighted at it.

21977. Rev. Dr. FRANK.—Has the Compulsory Act added to the number on the rolls of the schools of Edinburgh?—Oh, yes, I think so.

21978. To the number on the rolls?—I think so.

21979. Has it increased the average attendance in proportion?—Well, perhaps, not in proportion, but I think it has increased the average attendance.

21980. That would necessarily follow to some extent, but least in proportion?—That I am not prepared to say.

21981. Could you help me to understand this paragraph on page 15, "The work in each of these schools was examined by Lieut-Colonel C. Cunningham, R.E., Local Inspector of Drawing and Manual Instruction for Edinburgh and district." What does this gentleman do?

Captain SHAW.—He is temporary Inspector of the Science and Art Department.

21982. Rev. Dr. EVANS.—He is local but he is at the same time under the Science and Art Department?—That is so.

21983. And your manual work is conducted under the Science and Art Department and they pay for it?—Yes.

Mr. DAVID GRAHAM, Chief Instructor in Woodwork under the Edinburgh School Board, examined.

21984. CHAIRMAN.—You are the Chief Instructor of Woodwork under the Edinburgh School Board?—Yes, my lord.

21985. How long have you held that position?—Five years past.

21986. At what age and at what standard do the pupils come to receive instruction in woodwork, and what time is devoted to it?—In standard 5, pupils of ten or eleven and upwards, and the time devoted to it is two hours per week.

21987. How do you provide for the two hours as regards the other work of the school?—As a rule the pupils who come to the manual work do not form the whole of the class they come from, it is only a portion of a class that come for manual work. They are taken in a number sufficient to fill the workshop.

21988. The point I want to get out is this; I think I understood to-day, when I was in one of the schools, that the plan adopted is to take a boy one week from a certain class, say arithmetic, and another week from a class of a different kind of instruction?—Yes, that is arranged for by having the boys coming one week at nine o'clock, next week at eleven, and the following week in the afternoon.

21989. So that, in point of fact, the time devoted to woodwork is partly gained by giving them an extra hour?—Yes.

21990. And partly gained by shortening his work during the school term, or at any rate during five weeks of the school term, by shortening his work in each subject for one hour, each time taking him from a different class?—Practically that is so.

21991. How long do you think a boy ought to remain at manual work?—As long as he remains at the school.

21992. But what term of years do you think would be best?—Three.

21993. Do the boys begin at ten generally?—Very few begin at ten.

Mr. MURRAY.—The average is twelve, finishing standard 5.

21994. CHAIRMAN.—Do many boys remain until they are fifteen?—Not many.

21995. Then you have not many to remain for three years?—Not many.

21996. Do you find that the boys take a keen interest in the work?—Very keen.

21997. And that they are very regular in their attendance?—Yes.

21998. What do you say about the success attending the work, judged by the Science and Art Inspector's report?—The Science and Art Department's report has always given the mark "excellent," and the highest grants have been paid in respect of the work done.

21999. What proportion of workshop expenses is covered by grants from the Science and Art Department?—I calculate about 50 per cent.

22000. And the other part is obtained how?—By a rate.

22001. What teachers are engaged in the work and what are their qualifications?—They have been artisans who have taken a course of drawing at classes at Heriot Watt College, or at similar classes.

22002. Would an artisan, a journeyman instance, be taught drawing in connection with his trade before he began to practise it, I don't mean in a school but in his own particular trade?—No, further than the purpose required for the working of the wood.

22003. But he would be taught to that extent?—Yes.

22004. Then he would have to understand scale drawing?—It would be necessary for him to understand scale drawing as well as full-sized measurements.

22005. What are your reasons for employing artisan teachers?—Because I cannot get certificated teachers with the practical skill.

22006. Is there any training school for teachers if they wished to teach in manual work?—No.

22007. Rev. Dr. FRANK.—It is not taught in any normal college?—No, not so far as I know.

22008. CHAIRMAN.—What do you say about the capacity for teaching manual work in Edinburgh

Edinburgh.

Oct. 20, 1897.

Mr. Alexander

Guy.

Mr. David
Graham.

Edinburgh.
Oct. 10, 1887.
Mr. David
Graham.

Board Schools 1.—The capacity at the present time is for 1,800, what I mean by that is that if the workshops were always filled there would be 1,800 taught every week.

23009. Are there any evening schools for the instruction of teachers in manual work, and, if so, what is your experience of them?—We have had classes for the instruction of teachers but we have not got them now, they are discontinued.

23010. They were a failure?—In point of fact they were not a failure in so far as the teachers were able to take certificates; but the teachers could see no outlet for having this work in their ordinary day schools.

23011. Why was that? Was it because you always employed artisan teachers or because of the expense?—One reason was because we always employ artisan teachers, but another reason and possibly a more important reason is that an ordinary teacher generally has a class of forty boys: now in the woodwork he is not able to take any more than twenty and the difficulty at once arises what would the other half of the class be doing while the teacher was engaged in manual work.

23012. That was assuming that the manual work was taught during school hours and not in extra hours?—Exactly so, and manual work is taught at present in school hours.

23013. What is the occupation of the boys who attend the Evening School Manual Training class?—I may say, to begin with, that these evening schools are not under my charge, but I have been furnished with this information. There are no classes in connection with two evening schools, Stockbridge and South Bridge. The class in Stockbridge has been increasing annually, it began in 1895 with thirty pupils, next year it increased to fifty-five, while this season the number is seventy-one. That last number includes the following trades:—Messenger boys, 12; carpenters, 7; clerks, 7; joiners, 7; telegraph messengers, 4; tailors, 3; plumbers, 3; masons, 3; cabinet makers, 2; grocers, 2; hutchins, 2; upholsterers, 2; printers, 3, and 1 each of the following, organ builder, gardener, draper, bone finisher, coach builder, engineer, bell hanger, silversmith, jeweller, golf maker, tool maker, case maker and stereotyper.

23014. Most Rev. Dr. Watson.—The Inspector has given the mark "excellent" on each occasion that he examined the school?—On every occasion.

23015. I take it this does not necessarily mean that he would give the mark "excellent" to each individual pupil?—The examination is a class one, and the mark is given on the work done by the whole.

23016. And I assume that it does not even imply that each individual pupil was examined?—No.

23017. All the pupils might, as a matter of fact, happen to be examined, but that is not at all implied by the fact that the mark "excellent" was given to the class?—No.

23018. What is it that determines the amount of the grant that will be paid to the school?—The number of attendances made by the pupils.

23019. But on a given number of attendances you may have a higher grant or a lower one?—No, on the boy that you claim on, you must have fifteen attendances, but you can only get one grant on that particular attendance.

23020. But that is not a fixed grant?—It is a fixed grant on the attendance; if you get the mark "excellent" they give you a bonus.

23021. In other words, you get a higher grant per head if the school gets the mark "excellent"?—Quite so.

23022. And you get that higher grant although each individual pupil in the school may not come up to the standard of excellence?—Yes.

23023. So that your getting even the highest possible grant depends on the general character of the answering of the class, and not upon the answering of each individual child in the class?—That is so.

23024. Do you consider that it is the age of the

children, or the standard that they have reached in the school, that should be looked to if we are deciding at what point woodwork instruction should be given?—I would say the age.

23025. In your Scotch system this branch comes in with the fifth standard, may I take it that this is so because it is thought that pupils of the average age of the fifth standard, and even the lowest age of the fifth standard, may be put to woodwork without inconvenience: in other words, it is not because they are in the fifth standard that they are put to woodwork, but because the children of the fifth standard are of an age at which woodwork may well be commenced?—Presumably it amounts to that.

23026. So if you found in any other part of the country, or in another country, children of the fourth standard who were of the age that your children are in the fifth standard, you would not consider that woodwork should necessarily be deferred to the fifth standard?—No, I would begin at the fourth standard.

23027. Mr. BENTHAM.—Is it not the case that some children in the fourth standard are taught?—Yes, when we have room.

23028. Most Rev. Dr. WALSH.—But of course you would not take particularly young children?—We take them indiscriminately.

23029. What is the youngest age at which children are brought into this woodwork with you?—I don't think there are any under ten.

23030. But there are some between ten and eleven?—A fair number.

23031. And you never found it physically impossible to teach these children to handle tools?—No.

23032. We saw some of those younger children in school to day, and I think you told me there that some of them have done excellent work, not merely handling tools, but handling them with skill and success?—I have often found that the boy dull at ordinary work was very good at woodwork.

23033. Did it ever and by his coming to be dull at the other work, did you find that it had the useful effect of encouraging him, so that he came gradually to get on better with his ordinary work?—I cannot speak for the ordinary work.

23034. As we have heard that elsewhere, I may ask you would it surprise you to hear of its having that effect?—No, I should rather expect it.

23035. That is, you should expect it, from the general knowledge that you have of the effect of woodwork instruction on the intelligence of the children?—I should expect it for that reason.

23036. Messenger MONTGOMERY.—Do you find that the boys generally are interested in the work?—Very much so.

23037. Is there much diversity between them as to fitness for the work?—Some do better than others, but they all do it.

23038. Can you say that they all profit by it?—Undoubtedly.

23039. At present each boy gets two hours a week for woodwork, which should you consider it better to have that two hours together on one day of the week, or to have one hour on each two days?—I should prefer to have two hours continuous.

23040. Why?—Because there is a certain amount of time always lost in putting out the material and getting it away again. Probably from the educational point of view you would get better results if you laid work in three hours of the week, taking single hours, but if I am only to get two hours I prefer to get them continuously.

23041. You think you get practically more time out of two hours when you get them together?—Yes.

23042. Are the boys able to work continuously for two hours without undue fatigue?—I don't think it fatigues them in any way.

23043. Rev. Dr. WILSON.—Is there any place in Edinburgh or elsewhere in Scotland for training teachers for all Scotland in manual work?—There is no particular place for training teachers.

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22044. With regard to this note that you receive what local authority has the power to strike the rule in Edinburgh, is it the School Board?—The Parish Council.

22045. Mr. MOTZOV.—Is more attention given to drawing in the manual workshop than to the pupils who do not attend there?—The pupils who come to manual work get all the drawing given in the manual work, and they get class work in the ordinary school.

22046. In the ordinary school what is the most advanced kind of drawing does it go beyond freehand, do they draw from objects?—I am not able to speak on that matter.

22047. In one school to-day we found arrangements for cookery in the same room with the manual instruction work, does any inconvenience arise from that?—From any point of view I prefer that the woodwork room should be a cookery room also.

22048. Why is that?—I find that when the woodwork is also used for cookery it is kept much cleaner.

22049. CHAIRMAN.—The cook cleans it up for the woodwork?—No.

22050. Mr. STOUTHER.—Perhaps the cook objects if the room is not clean when she comes?—I don't know.

22051. Mr. MOLLOY.—You have, I presume, a detailed scheme for a three years' course in woodwork?—I have.

22052. Would you do the Commissioners the favour of letting us have a copy of it?—I will.

22053. Captain SNAW.—With regard to these artizan teachers you said they went through a course of drawing at one of the technical schools, was that after they were appointed or before?—Before.

22054. Were they selected because they were people who were paying attention to manual education?—That was one of the reasons.

22055. And in selecting them you took care that they were men who had taken pains in their own education?—Yes.

22056. Therefore you perhaps got a superior man to the village carpenter?—Decidedly.

22057. Do you think the village carpenter would be a suitable teacher?—If he took it up in the proper spirit.

22058. But then he would require training before you took him in?—Yes.

22059. With regard to this course, you have drawn it up yourself?—I have.

22060. Do you find it work satisfactorily?—Yes, as testified by the Science and Art returns.

22061. But, as judged by your own estimate, do you find you are hampered by the regulations under which you have got to work?—To a certain extent I am.

22062. Would you let us know how?—Well, I don't believe in annual examinations. I should prefer the Department to send only at stated times their inspector to see the work being done, not to have an examination, as we have at present.

22063. You mean to have an inspection, not to have an examination?—Yes.

22064. But as to the course of woodwork which you carry out, whether it is inspected or examined, does that affect it very much?—As long as the Science and Art Department pay grants we must to a certain extent prepare our course to earn that grant.

22065. But they don't lay down that you are to do any particular course of woodwork?—No, but they lay down a certain examination, and unless you make your course suitable you won't be able to pass that examination.

22066. Then what is objectionable in the examination?—I think the examination, as it is conducted just now, is too much on the lines of trade joints and things of that kind. I think a child in woodwork gives no attention to it, and takes a greater interest in it if he is working at an article that will afterwards be useful.

22067. They make a considerable number of articles in your course?—Yes, but they are sometimes making an object that has really no value, except an educational value, attached to it.

22068. Would you prefer they should make useful models from the beginning?—Not necessarily.

22069. How should the instruction be commenced?—I would instruct them just as I do now, but I would not continue to give them examination tests, as I have to do at the present time. At the present time I have to stop teaching the work in the book for a day or two before the examination and give them test exercises.

22070. And the work which they get to do now at the inspection is not the work in your book?—Sometimes it is and sometimes it is not.

22071. Then you don't think it is a fair test of the children's ability to construct an object from a drawing which they have not met before?—Well, it is a fair enough test of the work to construct an object, but I don't see that it is a fair test after one year's instruction.

22072. Would you prefer it after more than one year's instruction?—Yes, I believe it would be valuable after two years' instruction.

22073. Mr. HARRINGTON.—Is there any objection on the part of the trades to this manual instruction in schools?—We have not had any in Edinburgh.

22074. There is no idea that you are encouraging too many boys to become carpenters, and flooding the market in that way?—No, we have had no objection of that kind.

22075. Rev. Dr. BRUCE.—Is truancy practised in the Edinburgh schools?—I have never heard anything of it.—I don't know.

22076. I wanted to find out, if I could, whether manual instruction did anything to cure that vice?—As to that I cannot say.

22077. Is manual instruction taught in the voluntary schools?—The voluntary schools in the town don't take manual work so far as I know.

22078. Do the pupil teachers receive manual instruction?—No, not at present.

22079. Are pupil teachers examined one by one by the inspector?—They get no manual work, and I am not sure as to how they are examined by the inspector.

22080. Mr. STOUTHER.—I think you said you had some children in the fourth standard taking manual work?—I have.

22081. You don't get any grant for these pupils?—No.

22082. So you teach them without any prospect of a grant?—Without any view of getting a grant.

22083. Simply because you think it is good for these children educationally?—That is so.

22084. That is a very strong proof of the value you set the Board attach to this form of instruction?—Yes.

22085. As regards the examination, you get a bonus of 30 per cent. if a class pass "excellent" from the Science and Art examination, and, of course, if a class did very badly in a supposition case the grant would be withdrawn or reduced?—Yes.

22086. You prefer to have inspection rather than examination you say?—Inspection of the classes, and the inspector coming and seeing their work going on?—Exactly.

22087. Rather than have a fixed examination at which the pupils have tests set them?—Yes.

22088. In that way the inspector would be able to give more attention to the method of instruction that he is able to do at present?—Yes.

22089. Is that point inquired into at present, the method by which you teach?—I may say that we have at present inspection by Mr. Bruce, the inspector for the district, but over and above his inspection we have the annual examination.

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22090. Then the annual examination is confined chiefly to testing the pupils?—Wholly to testing the pupils.

22091. There is no notice taken of how the class is taught, the methods of work?—The Inspector sees the pupils do the work.

22092. Captain SHAW.—Has the teacher never to give demonstrations to the pupils?—He demonstrates to the class on the model that has to be made.

22093. Mr. STRUTHGERS.—That shows how he does his work?—I think you objected to the test set at the examination, from this point of view, that you more or less know the sort of test that will be set, and you feel obliged to prepare for it?—That is what it amounts to.

22094. You know pretty well the type of thing that is to be set, and, consequently, you take the pupils' time to practise those, when you would be rather doing other work, if left a free hand?—That is so.

22095. Then as to the class of teachers, you said that there is no opportunity of receiving practical instruction in woodwork in Scotland; you yourself conducted some classes for teachers, did you not?—I did.

22096. And did they make good progress under you?—Very good, indeed.

22097. Would they be capable teachers of woodwork if they took it in hand, from your point of view, from what you know of their work?—I would not say they would be capable teachers for a whole course, but they might be capable for the test part.

22098. But they might improve?—Yes, if they applied themselves to the work.

22099. CHAIRMAN.—You would not like to say they were capable teachers until you had seen them teach?—It amounts to that.

22100. Mr. STRUTHGERS.—These were men who had considerable experience in the teaching of other subjects?—Yes, but a man ought to have a thorough knowledge of the work he professes to teach.

22101. But he may have that combined with the general education that a teacher gets before he begins to teach at all?—That is quite possible.

22102. And you gave a reason why these men could not be employed in Edinburgh, and it was that they would be taken away from their other classes?—Yes.

22103. But suppose you multiplied your present assistants—I am only putting a supposition on—suppose you had teachers who had been trained to do these different kinds of work and devoted themselves entirely to manual work, just as your present assistants do, theoretically at all events they would be more capable teachers?—Yes, theoretically.

22104. We cannot say more except from the experience of other towns. It would be quite possible then that they might take the place of your present assistants?—If they were to devote their whole attention to it they might.

22105. Your objection was that they would necessarily be employed in taking another class and be withdrawn from that class to manual instruction?—Yes.

22106. But it is quite possible that a teacher might devote his whole time to manual work or to manual work and drawing. Would it not be a good thing to have manual work and drawing throughout taught by some one man?—I would rather devote the man's time to having a continuation of some form of manual work from when it is left at the present time in kindergarten, carrying it right up through the school. The same man might teach drawing.

22107. Have you any oversight of such work as is done at present?—No, I have no official position.

22108. But you are a sort of informal adviser?—Sometimes I am asked.

22109. Did you not conduct some classes for instruction in cardboard work?—I did.

22110. And you might conduct other classes of a similar kind if the Board found it expedient to introduce these various branches of instruction?—I should be pleased to do so.

22111. You say you would like the same man to look after both woodwork and preliminary manual exercises?—Yes.

22112. Would you not extend that and say the same man might look after all forms of manual work and drawing, seeing they are so intimately connected?—It would be advisable to do that.

22113. Are not the two things of very much the same nature?—Yes, and the training for one very similar to the training for the other.

22114. And does it not help the teaching of drawing when they see the practical application of it to the work?—Yes, the lesson is much more valuable.

22115. So that this being one consolidated piece of work, as it were, it is better it should be in the hands of one set of teachers?—Yes.

22116. MESSRS. MOLLOY.—Suppose you had an intelligent teacher with an aptitude to learn woodwork, but without any training in it, what amount of teaching would he require to make him fit to teach it?—That to a certain extent is an unknown quantity, it depends on the man in the first place and the amount of time he could devote to it.

22117. How much time do you think he must devote to it before he is fit to teach it, supposing him to have an aptitude for learning it?—Possibly 500 or 600 hours.

22118. Say one hour a day for two years?—Yes, I should say so.

22119. Now take the case of a boy who has learned woodwork at school as you are now teaching it to your pupils, and suppose him afterwards to go to a training college, how long would he require at that college in order to fit himself for teaching woodwork?—While learning the educational theory connected with it, he would acquire additional practical skill.

22120. As regards practical knowledge, you think he has already acquired enough at school?—His practical knowledge would be much in advance of his theoretical knowledge; we don't teach the theory at all.

22121. Suppose a boy who has learned woodwork at school for two years under such a teacher as you are what additional time would he require in a training college to fit him to teach woodwork to his pupils?—To begin with he would require 200 or 300 hours spread over a course.

22122. Mr. STRUTHGERS.—In order to acquire further practical skill?—Yes.

22123. MESSRS. MOLLOY.—Not only to acquire practical skill in his work, but also to compare the art of teaching the work to others?—Yes.

22124. Mr. STRUTHGERS.—From these classes you yourself conducted for teachers you said some of them in your opinion were qualified to give the instruction, how long did that course last?—About six months the first year and six months the second year.

22125. And how often did they attend per week during that time?—Once.

22126. And how long was the lesson?—Two hours.

22127. So that it was one lesson of two hours per week for six months followed by a similar course the second year. That gives a practical test of what you consider would be sufficient instruction for men who had some capacity for this subject?—They would have got so much information on the subject as to be able to begin to teach it, but to become skilled teachers they would require much more.

Mr. S. M'C. MURRAY, Head Master, *Scotches Public School, Edinburgh*, examined.

Edinburgh.

Oct. 20, 1897.

Mr. S. M'C. Murray.

12132. CHAIRMAN.—You are Head Master of the Scotches School, Edinburgh?—That is so, my lord.

12133. You are conversant with the manual training and science work and drawing taught in that school?—Yes.

12134. When was the school opened?—March, 1892.

12135. What is the accommodation in the school?—The accommodation in the building is roughly 2,500, but for teaching purposes 1,517.

12136. What was the average attendance last year?—1,411.

12137. What does the staff include?—Twenty-six certificated teachers, eleven pupil teachers, three special teachers for sewing, special instructors for woodwork, singing, gymnastics, cookery, and swimming.

12138. Has woodwork been taught in the school since the opening of it?—Within six months after the opening of the school; it was begun in October.

12139. By whom was it taught?—By Mr. Graham, but the woodwork department was so far started by myself before Mr. Graham's appointment.

12140. Was Mr. Graham an artisan?—He was an artisan at that time who had qualified by drawing and teaching in the evening classes, and his appointment was recommended by myself because of my knowledge of him as a teacher and his skill as an artisan.

12141. Do all the boys in the fifth standard and upwards take woodwork?—Yes, that is to say about 200 boys.

12142. Only excluding those who for some physical or other reason are not fit?—That means very few.

12143. How many days weekly is the instruction employed?—Three days a week, giving eight sections.

12144. On the other days of the week how is the room used?—It is used as a cookery room on Mondays and Fridays.

12145. Do you find any difficulty or any advantage in the combined use of the room?—This plan in the Edinburgh schools was largely due to my suggestion for the use of a room that I had in the school at that time standing empty. There was no woodwork instruction under the Board; this room was meant to be a cookery room; we could only employ the teacher for two days in the week, and I suggested the utilizing of it for woodwork and giving the full five days' use for the room. I have found it fully to come up to my expectations, in so far as it puts the cookery and woodwork in the same relation to myself as head master as the other subjects in the school.

12146. What other occupations are taught in the school beginning with the infant department?—We have a more or less temporary scheme that varies from year to year according to the capabilities of the assistant teachers; we have cane-weaving, brush-drawing, pattern-making with coloured papers, designing in colours, and in some of the upper standards map-drawing of a more or less advanced kind; occasionally card-board when we get a teacher who can take it, and clay modelling. We have all these things going on in the various classes of the school.

12147. And you include all those under the head of kindergarten occupations?—Yes, I prefer the "Continuation of kindergarten."

12148. Are such occupations popular with the pupils?—They are very highly popular with the pupils.

12149. And the parents don't object?—There have been no objections in the six years since we have been started; it has happened that parents have asked explanations, but no objection has been taken.

12150. What do you consider the benefits derived, both direct and indirect benefits?—The indirect benefit would be in the increased interest a boy takes in

all his work from having this change of occupation that this hand and eye work gives him.

12151. Do you think that it improves the physical powers of the boy?—It does, it distinctly improves his physical powers. I look upon it as part of the physical education of the school, that we give a good deal of attention to exercise.

12152. Do boys take more readily to a trade?—I think they do. I have this last year tabulated the trades and employments to which seventy boys who have left since last March and passed standard 5 or 6 have gone. I find of those, twenty-two had gone to trades; that is an unusually large proportion in a town where there are so many other occupations for lack of that sort. Of these twenty-seven were connected with woodwork, five were joiners, pure and simple, one was a cabinet-maker, a very special case, and one was a golf-club maker. The lad who went to cabinet-making was a boy very far back and old when he joined me in standard 3, fourteen years of age, and hopelessly dull at his work. He stayed until past standard 5, and was then two years at woodwork, and he turned out to be capable of excellent work, at least he is turning out. Thirty have gone to shops, that is because we have a large shop-keeping element among the parents of the pupils. The rest have gone to odds and ends, such as postal telegraph and teaching.

12153. Rev. Dr. EVANS.—Have any gone on to the Universities?—No.

12154. CHAIRMAN.—I have a table here which contains what you have told us, and also gives the average age at your school as compared with other Board schools?—That is so.

12155. What do you consider the indirect advantages?—I have nothing to add to what I have already stated. It improves them in their skill in drawing distinctly, especially the model drawing, that we teach from standard 5 upwards; five and six take drawing from models in connection with freehand and drawing to scale.

12156. And you find that it gives relief to their minds by change of occupation?—Yes.

12157. And also improves the regularity of attendance in the younger classes?—Yes, those casual forms of employment we have in the lower standards. I have not noticed much difference in the attendance, partly because our school has a very high average. Last month about 91 per cent was our average attendance even after the holidays, and this week we are as high as 97 per cent.

12158. What are the drawbacks to the introduction of woodwork?—The main drawback to a headmaster of a school with a number of departments in it is that we have to add it to a curriculum that is very full on account of the number of extra subjects we take in our schools, and we have thrown nothing overboard. When we take on this manual training, which takes about two hours, or one twelfth of the ordinary time, away from these subjects it breaks up the work of the schools, and the assistant teachers rather object to that, and I think to some extent they have reason. But that is also local to Edinburgh, in so far as the lesson is two hours in length. I would rather, as a headmaster, prefer the single hour lesson; it is better for the general work of the school, although not perhaps so good for the woodwork itself.

12159. When you say that it breaks up a class I understand, from former evidence, that a certain number of boys are taken out of a particular class this week, and they are taken out of another class next week, but I suppose that next week some other boys will be taken out of the first class, and the third week different boys again?—That is so; not the arrangement that has been mentioned has been in force for six years. We were the school that started this woodwork, and that is in my own management of rotating the sections, beginning with A, following with

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B and C, and after that beginning with B next week.

22156. You have some observations upon the subject of science; what do you say about elementary science in connection with your school?—We have taught elementary science for the last six years. For the first four we had it as a class subject, covering the 2d, 3d, and 4th years, and that was changed in the 5th year, and we still continue to teach the same subject under the same syllabus.

22157. You cannot a copy of the scheme?—I annex a copy of the scheme.

22158. Perhaps you will kindly tell us what is taught under the head of science?—We teach elementary science under three divisions—elementary botany or plant life, elementary zoology or animal life, and elementary chemistry. We lead up from the infant department with specially graded object lessons, to the beginning of the scheme proper in standard 3, we try to make the teaching as objective as possible in the lower classes, and only begin the idea of classification as we advance to the upper.

22159. I think that you say the lessons are taught by the ordinary class teacher and given in the ordinary class-room, although the necessary preparations are made in the laboratories?—That is so.

22160. What happened when the class had to be moved into the demonstration room proper?—I found it led to a considerable waste of time, and the assistant teacher frequently omitted to take the class when he found some other lesson that was perhaps pressing.

22161. Was it optional with him?—No, but it occasionally happened he could have a temporary reason for not going.

22162. Are the lessons in all cases practical?—Yes, largely.

22163. The objects are seen and handled as far as possible?—That is so.

22164. And the aim has been to convey useful instruction and cultivate the powers of observation?—That is so.

22165. Is the lantern used?—We use the lantern for science and geography, especially in the winter months.

22166. Is it used in the ordinary class-room?—An ordinary class-room that can be darkened with great minuteness preparation.

22167. A supply of slides illustrate the botany and zoology lessons more particularly?—Yes.

22168. What are the qualifications of the teachers?—They have the ordinary certificate of the Education Department, but they have qualified locally for this particular work by taking science classes in the Heriot Watt College.

22169. Are notes of the lessons kept and submitted to Her Majesty's Inspector at his annual visit?—That is so.

22170. Are any text-books used by the pupils?—No text-books are used by the pupils.

22171. What sort of science is taught?—Elementary science.

22172. What do you think is the proper function of a public school in this kind of instruction?—To give the basis of a general scientific education that may be specialized afterwards.

22173. You do not therefore teach any one science thoroughly, but teach the elementary stages of science?—That is so.

22174. You think that this gives science the proper place in a general scheme of education?—I think it does, that is for what we call a public school.

22175. What do you think is the value of this teaching?—It trains accurate powers of observation and accurate deductions from what is seen.

22176. How is drawing taught in the school?—Drawing is taught under the Science and Art regulations from the infant department up.

22177. By whom is it taught?—By the ordinary staff for, roughly speaking, two hours per week.

22178. Do you think two hours a fair allowance?—A fair allowance, considering the state of our curriculum.

22179. What do you say about the sewing class?—The sewing classes go for three hours per week; they are taken in rotation, and that leaves boys free to take up drawing when the girls are at their sewing room.

22180. You have a separate staff for teaching sewing?—That is so.

22181. Mr. SMITHSON.—Are the girls taught drawing?—No.

22182. CHAIRMAN.—The pupils, as a rule, must take the drawing in the standard in which they are placed for ordinary subjects?—That is the rule.

22183. Why is that so?—It is impossible to have a separate classification in the Edinburgh schools that run these separate sewing rooms; it means the various standards are taken at different times of the day, and it follows from that that drawing must be taken at different times for different standards.

22184. You think that the Science and Art Department requires to give greater attention to this subject?—I do; in Scotch schools, with our complicated timetable, due allowance is not made for that; it is more applicable to English schools that do not teach so many subjects to the same extent as we do that have these separate departments.

22185. Do you find that while there is inequality in the individual papers worked in any one standard, there is even much more real power of drawing evinced by backward pupils than if they had been put back, say, from Standard V. to Standard II.?—I am speaking about the difficulty of getting higher grades of the Science and Art Department in the Scotch schools. None of the Edinburgh schools last year earned the mark "excellent" for drawing. That is unusual from the English average, the reason being that we cannot put backward pupils back to lower standards for drawing purposes.

22186. Are you of opinion that drawing to scale should be postponed from Standard IV. to Standard V.?—I am.

22187. Do you think that solid geometry should be removed from the requirements altogether, and relegated to the syllabus which has to do with the needs of the specialist?—That is so.

22188. Does the same apply to geometrical drawing?—Yes, the advanced geometrical drawing as given in the 6th standard, the alternative course.

22189. With regard to the inspection of drawing, what do you say about that?—We rather object to the papers going up to the Department, and not being judged on the spot by the Inspector, who sees the methods as well as the results of the teaching.

22190. Then you think that the ordinary inspector, resident in Edinburgh, would be the best person?—That is so.

22191. Most Rev. Dr. WATSON.—I see it suggested by one of the head masters that the rule requiring three hours sewing per week, in the case of girls, might well be relaxed; have you formed any opinion on that point?—It might be relaxed in what we call the 6th standard, that has a very heavy amount of work to undertake.

22192. You think giving three hours a week to needlework is giving too much time to it?—Not necessarily.

22193. But under the circumstances?—Yes, under the circumstances, in the 6th it might be relaxed.

22194. Then you certainly would not be in favor of having two hours per day given to it in the 6th standard?—Certainly not.

22195. I should like to know do you agree with this: "The educational value of needlework, apart from its practical value, does not seem to be very great"?—I think so.

22196. And with this: "Needlework is a very

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craft art, as we all know, but it is an art that children say art and dandle over for many hours in a state of complete mental vacuity?—That is so.

22197. So that giving many hours a week to the work may really be seriously wasting the time of the school?—Yes.

22198. The statements I have read to you are answers given to me, when we were in London, by Sir James Fitch?—I quite agree with him.

22199. You speak of instruction in woodwork in schools as having both advantages and disadvantages; now, in answer there are few slings in the world, no matter how good, and how advantages there may be, that have not a certain amount of disadvantage attached to them, so I should wish to know, in this particular case, whether you think the advantages outweigh the disadvantages?—I do, I am quite of opinion that they do outweigh them.

22200. Do you not consider that the advantages which you have described are advantages that arise from the very nature of this kind of instruction, whereas the disadvantages mentioned are disadvantages connected merely with the particular arrangements that have been made for the introduction of it?—That is so.

22201. You don't consider that in woodwork instruction, as a branch of schoolwork, taking the thing in itself, there is any real disadvantage?—I do not.

22202. You consider that on the contrary there is a decided advantage in it?—Yes.

22203. And more than our advantage?—More than our advantage.

22204. Then I need hardly ask you the question, suppose you were in charge of all the schools of a city such as Edinburgh, would you be in favour of removing the woodwork instruction from the schools in which it at present exists, or of introducing it into the schools where it does not exist?—I would be for introducing it into the whole of the schools, making it part of the school system.

22205. Dr. Kerr, the former Chief Inspector of this district, was an inspector of great experience?—He is.

22206. Now, as you are a teacher of great experience, I should wish to ask you whether you agree fully in what Dr. Kerr has said in his last report?—I believe he has now completed his term of service?—Yes.

22207. And so he speaks with an experience that gives special weight to his testimony; here is the passage: "The impression derived from the returns of the head masters in this branch of manual instruction, is that they heartily approve of it, as not only not a hindrance, but a help, in the ordinary work of the school?"—That is so.

22208. Does your experience also go the length of this? "The woodwork hour is the most popular hour of the day?"—With the boys.

22209. And also this? "The pupils are rarely absent from it?"—I have not noticed much difference in that respect, our school has a very high average attendance.

22210. So that your school would hardly be one to test that particular statement, but do you think the statement applies to other schools?—Yes.

22211. Dr. Kerr also says: "It is believed that a considerable number would have left school earlier but for the interest they take in manual work?"—I believe that is quite correct.

22212. Monsieur Motzoy.—According to this science scheme, which you have handed in, as I understand it, the teaching of the elementary principles of science may be said to be carried on through the whole course from Standard I. up to Standard VI., and Standard ex-VI.?—That is so.

22213. And your aim is rather to give certain general conceptions of science, than to teach particular branches of science?—That is so.

22214. These general conceptions are concerned chiefly with the main facts of animal and vegetable life and the general phenomena of nature?—Yes.

22215. Are these elementary principles of science

taught by special teachers?—No, they are taught by the ordinary class teachers.

22216. You find that the ordinary class teachers, when properly trained, are able to teach elementary science?—They are.

22217. May I understand, then, that the simple facts of animal and vegetable life, and the general principles underlying the common phenomena of nature, are taught in the several classes by the same teachers who teach the ordinary literary subjects?—That is so, with this difference, that occasionally I group small classes of boys. I have three divisions in the standard, which permits me to specialise in that standard—give one teacher chemistry, one natural history, and one botany.

22218. You distinguish between natural history and botany?—I do.

22219. Natural history being animal life, and botany vegetable life?—Yes.

22220. To what extent is this programme adopted throughout the Board Schools in Edinburgh?—Well, we were the only school to take elementary science as a class subject for four years. In the last two years, owing to a change in the Code, there are some six schools now that take this elementary science, but not this scheme, each school has its own scheme.

22221. Six schools out of twenty-nine?—I think so.

22222. And it is left to the head master of each school to determine the particular course to be taught?—Yes.

22223. May I take it that the course generally adopted is pretty much of the same character as this?—I think so.

22224. Do you think that this course is sufficiently advanced for the higher standards, or do you think a more advanced programme might be introduced later on, if this is found to succeed?—I think it is quite a sufficient amount of science teaching.

22225. It is a due proportion of science teaching for a primary school?—Quite enough.

22226. I observe that in the physical part of the programme there is no mention of heat or light?—That is so.

22227. Do you not think that it would be possible to give the pupils some general ideas about heat and light?—They do get the scientific ideas of that in connection with the properties of matter in standard three, the expansion of metals, for instance, come in in connection with that and in connection with the physical properties of air and water.

22228. Indirectly they acquire some knowledge of heat, but I don't see any opportunity of teaching anything about light under this programme?—No.

22229. In your own school are the pupils called upon to make experiments for themselves, or are they only shown experiments made by the master?—In the last class in the school they make simple ones, and go through physical experiments in connection with air and water.

22230. Are you well provided with apparatus?—We are very well provided.

22231. Is the apparatus provided by the School Board?—Yes, under certain grants they get six years ago from the Town Council.

22232. I believe that on a programme of this kind you cannot get grants from the Science and Art Department, because you do not divide the subjects according to the plan of South Kensington?—That is so.

22233. Mr. Motzoy.—With regard to elementary science, I think you mentioned that you do not use textbooks in the instruction?—We don't.

22234. But you use such as Johnson's charts and diagrams?—Yes, we have charts.

22235. You have no apparatus?—We have full apparatus for the chemistry and all the other parts of the science required; then of course the botany is taught very largely in springtime and summertime.

22236. And the plants are brought in?—Yes.

22237. And the teacher, holding the plant given

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the instruction to the class?—Yes, and the pupils also have specimens in their hands.

22328. Would you be in favour of the instruction in botany and zoology being confined exclusively to the ordinary reading books?—No, I don't think it ought to be taught by reading books at all; I think it is a mistake to teach lessons on observation from a text-book for a young pupil who cannot use a text-book.

22329. Most Rev. Dr. Watson.—And I suppose you would consider it a still greater mistake if that was followed up by an examination held exclusively in writing?—A serious mistake.

22330. Mr. MORLEY.—Have you any example of the same boy learning woodwork and elementary science?—They all do, it is part of the school curriculum.

22341. If it was necessary to start an alternative system between manual work and elementary science, which would you prefer?—I have not thought of that, I would not like to give a definite opinion; but I would be inclined to favour the elementary science.

22342. What branches of mathematics are taught in your school?—We teach it as a specific subject, which includes geometry, Euclid, algebra, and mensuration.

22343. Mensuration is taught separately from the geometry?—Yes.

22344. And that with a view to further instruction in drawing?—It joins on to that, but it is mainly in connection with arithmetic we teach that.

22345. The same text-book would contain that?—No, we use small separate text-books.

22346. I think, in answer to Monsignor Molloy, you mentioned that elementary science was practically taught?—That is so.

22347. Captain SHAW.—Could you give us briefly the number of hours devoted to the separate subjects?—It varies per standard to some extent.

22348. Give us the fifth standard?—It goes from 2 to 3.50, five and a half hours.

22349. Mr. STEVENSON.—With what interval?—One hour from half-past twelve to half-past one. Bible or religious instruction gets two and a half hours a week; reading, three hours; arithmetic, five hours; writing, which includes dictation, two hours; English, we teach English as a class subject, three hours; geography, two hours; history, one hour. Then for specific subjects we take Latin, French, or German—those are alternative, two and a half hours to one, or other of the three, mathematics, one hour, singing, one hour, hand and eye and manual training, two hours. Sewing and drawing alternate to some extent: the girls have three hours for sewing and the boys two hours for drawing and one for science. The girls go in batches for cooking, two hours, and then for the gymnasium half-an-hour per week, for swimming, forty minutes for the lesson.

22350. And I might in saying that geography and history only occupy three hours a week, and you find they make satisfactory progress in that?—Yes.

22351. Do they do any home lessons?—Yes, a lesson of about an hour's duration in the upper classes.

22352. Then this question of the classification? I did not quite understand it—about drawing?—A separate classification for drawing can only conveniently take place when drawing is taken at one single hour of the day. We cannot do that in the Edinburgh schools, because drawing is taken with sewing, and they go to sewing at different hours.

22353. CHAIRMAN.—Do the girls do drawing?—No, they go to sewing instead of drawing. Take standard 5, the girls take three hours sewing a week at different times; well, if there were any backward pupils in standard 5 drawing I could not put them into standard 5 drawing, because standard 5 is not then doing drawing.

22354. Do you know that in England the system of classification is much adopted?—I think separate classification is very much adopted in England.

22355. What objection have you got to teaching

boys solid geometry?—The broad fact that we have to have so many expedients to bring it home to the average child shows it is beyond his particular development for the time.

22356. Does not the manual instruction help you in that?—It does to some extent, not to a great extent. As a matter of fact, Mr. Graham would tell you that he prefers the teaching of geometry to precede the particular manual drawing he is giving for the year.

22357. But you think that it ought to be abolished altogether?—Yes.

22358. A difference of opinion?—Not a difference of opinion; but Mr. Graham finds the teaching by the ordinary school teachers advantageous to him in his work.

22359. Rev. Dr. WATSON.—You say that religious instruction is given for half an hour, who gives that?—The ordinary class teachers.

22360. What does that instruction consist of?—We have a regular syllabus of instruction drawn up by the School Board to which we adhere, taking up the various parts of the Bible in rotation from year to year.

22361. Have you any conscience classes?—We have, and that is taken advantage of by three classes in the city, those that don't take the Old Testament, those that don't take the New, and those that don't take the shorter catechism we teach in the schools.

22362. Have you some that don't take the Old Testament?—We have.

22363. And some that don't take the New?—Yes, we have a number of Jews in the schools.

22364. Mr. STEVENSON.—You, as head-master, are impartially interested in all the school subjects?—That is so.

22365. Being in that position you still think it advisable to introduce manual occupation in the various standards?—Yes.

22366. Did you find that it introduced a complication into the time-table?—It does in a school that is already complicated.

22367. That applies particularly to the higher standards beyond standard 5?—It does.

22368. And that comes there largely because your school being a more advanced school you propose pupils for the leaving certificate examination?—That is so.

22369. You do a great deal of special subject work—mathematics, Latin, French, German?—Yes, and shorthand and book-keeping.

22370. But the introduction of manual work in 2, 3, and 4 does not lead to the same complication?—It does not lead to the same complication.

22371. So that it almost follows that there is now opportunity for manual work in these classes than in the 5th and upwards?—There is.

22372. So it would be very desirable to develop some form of manual occupation in these standards?—I have often thought so.

22373. And as a matter of fact you have occupied yourself in experimenting a good deal as to what sort of occupation would be most suitable to children of that age?—I have.

22374. But as regards these classes you think there is room?—There is distinct room for manual training in these classes.

22375. You know a great deal of time is given to kindergarten occupations in the infant school?—That is so.

22376. And you, as head-master having charged the whole school, do not find that that work makes the pupils more unfit for entering on standard 1?—On the contrary.

22377. You find these children coming from the infant school, where a great deal of attention is given to kindergarten, more intelligent than we used to have them in old times?—In the last two years I found fully a third of standard 1 so far advanced with the ordinary subjects that I was able to put them in

standard 3 and miss standard 2 completely. I put that down to the thorough training in arithmetic for example, that is so much improved by the concrete teaching that comes from kindergarten work.

22278. Then in those standards you have not found it necessary to omit any part of the regular school work?—No part of the work.

22279. You would not introduce this subject in those standards unless you were satisfied that it did not do any harm to the efficiency in writing, reading, and arithmetic?—That is so.

22280. In your school, as in every other school in Scotland, you have what are called class subjects, perhaps you will explain to the Commission what those class subjects are?—We have a choice of four or five subjects that are called class subjects—English, geography, history, some form of elementary science and, if need be, some form of manual training. We must make a choice of two of these—at least we must not make a choice of two, but we can make a choice of two, and the examination of Her Majesty's Inspector is not an individual examination but a class examination. There are standard subjects, class subjects, and specific subjects.

22281. Most Rev. Dr. WALSH.—The standard subjects being the three elementary subjects?—Yes, the standard subjects are reading, writing, and arithmetic. The class subjects are a choice among a set of five—two of the five; we take English and geography. The five are English, geography, history, some form of manual instruction, and elementary science.

22282. Rev. Dr. EVANS.—What do you include in English, how much does that cover?—There is a regular course per standard, it covers getting up so much of a standard poem or work—in the 6th standard "The Merchant of Venice"—part of that; then along with that would go explanation of the text and the story of the play, and essays on the characters that the pupils would read of in that play, and a short section of the literature of the history, and then the formal parsing and analysis to some extent, but perhaps not so much; that is what we call English. Then in addition to these class subjects come the specific subjects, which are not very numerous and are mostly literary in Scotland.

22283. Most Rev. Dr. WALSH.—We cannot have this put too plainly. In it that there are, in the first place, three elementary subjects; then five class subjects are set down in the Code, of which some two must be taken; and then come the specific subjects?—Yes, mathematics, the language subjects are—Latin, French, German, Greek. I had one pupil in Greek last year.

22284. What about Gaelic?—That is a special subject for the Highlands. We have extra subjects, such as navigation, the principles of agriculture, and domestic economy.

22285. Cookery?—Cookery comes in under a separate article; it is not called either a class subject or a standard subject.

22286. Then it would seem to be a specific subject?—No, it counts as a specific.

22287. Mr. STEVENSON.—Special arrangements as to the hours of teaching and the number in class have to be made, and in that way it is distinguished?—Yes.

22288. So is *deley* and laundry work?—Yes, but you can make any specific subject you please, if you get the consent of Her Majesty's Inspector and the Department.

22289. The manager of any school may submit to the Inspector and Department what they consider a suit-
able subject of instruction for the children over the 5th standard, and if that is approved of it may be taught, as Latin, French, or mathematics see?—Yes, and that is taken advantage of in districts where there are local needs.

22290. Most Rev. Dr. WALSH.—Now will you tell us what the grant is for the elementary subjects?—There is a fixed grant; that is paid on the average attendance of the class, 10s. per head; that is invariable. There is a grant for singing, that

may be 6d. or 1s., also paid on the average attendance. There is a grant for organization and discipline, which is 1s. or 1s. 6d., according to the state of the school.

22291. These are all fixed grants?—These are all preliminary grants that practically do not depend on the success or non-success of the school.

22292. Except in so far as the organization of the school may be good, bad, or indifferent?—That is so. In addition to those, under article 19, A⁴ and A⁵, we get 1s. grant for needlework and elementary science. Then in the standard subjects, in addition to the fixed grant of 10s., there is a variable grant of 2s., 3s., or 4s., according as the school is fair, good, or excellent, for the standard subjects.

22293. Then for the class subjects?—There are three grades of payment, 4s., 5s., or 6s., for the combined class subjects, not for them separately. In addition to that, there is a payment on the specific subjects which are paid on the individual pieces of the scholar.

22294. But not a grant for the class in each specific subject?—It is not for the class, but for each individual piece in each specific subject.

22295. And how many of these specific subjects can be taken?—Two by pupils under the standard, and three beyond.

22296. Mr. STEVENSON.—And no grant is made for specific subjects if the ordinary work of the school is not good?—That is so.

22297. Most Rev. Dr. WALSH.—You spoke of the 10s. fixed grant in the elementary subjects: is there not a grant that depends on the average attendance of the school, as I read the code there is some provision for such a grant?—There is a provision for a capitation grant of 10s. certain, but if the average attendance in the school exceeds 65 per cent., and is under 70, they get 11s.; that seems to be provided at all events for some places, probably for districts where the population is scattered, so that the schools must have only a small attendance?—That is so in the Highlands.

22298. And so, when the attendance in a Highland school is from 70 to 75, the lowest capitation rate is 12s.; with an attendance of from 75 to 80, it is 13s.; and wherever in such districts the average attendance of the school exceeds 80, that 10s. grant is turned into a 14s. grant?—That is so, but only for special districts.

22299. Mr. STEVENSON.—About the class subjects, there are five of those?—Yes.

22300. And the school may take any two or three or four?—It may, but will get no extra payment beyond what you get for the two.

22301. That is to say, the grant for class subjects is not paid on the number of subjects you take up, but the way these subjects have been used for training the intelligence of the children?—That is so.

22302. So from one point of view it is immaterial what number you take up; it is the quality of the work?—Yes. We take a third—history.

22303. Under this scheme it would be quite in your power to substitute manual work for the English?—If I thought it judicious.

22304. But you don't think it judicious?—I don't think it judicious.

22305. So you would always teach English in preference to manual work, if you had your choice?—Yes.

22306. Similarly with geography?—Yes.

22307. Would you say the same about history?—I would have my doubts about history.

22308. But, as a matter of fact, in the standards up to five you think there is no difficulty in teaching the three class subjects you have mentioned, and some form of manual work, in addition?—We find no difficulty in doing that.

22309. And the elementary work in your school has for a series of years been graded excellent?—It has been marked *excellent*.

22310. You said, in answer to Dr. Evans, that English in the Scotch Code is not simply grammar?—That is so.

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22311. It means the understanding of the reading lesson is—intelligence, very largely. We don't use any grammar text-book at all, only in the upper standards.
22312. Can you say that that is not usual in the Scotch schools—on the Edinburgh schools, at any rate—to use a grammar text-book?—That is so.
22313. Except when you come to very advanced classes?—Yes.

22314. About geography, do the pupils in three, four, and five standards use a geography text-book?—They use a small text-book.

22315. Are lessons set from that text-book to be learned by heart?—No; nine-tenths of the teaching is done by a map.

22316. Have you ever seen an inspector in your school take the geography or grammar manual, and ask the class questions from it?—Never, in schools in Scotland it is an mishead of thing.

22317. Then grammar is regarded as a subordinate subject—useful so far as it leads to the intelligent interpretation of the reading lesson?—That is so. Any grammar we take is based on the lesson.

22318. Rev. Dr. EVANS.—Do you include analysis in grammar?—We do.

22319. Mr. STRATHGORN.—Grammar, so far as it is defined, begins with analysis?—It does; we teach our parsing as secondary to analysis.

22320. So far as formal grammar is concerned analysis is the leading part of it?—Yes.

22321. Rev. Dr. EVANS.—And that is universal, as far as you know?—Yes; any assistants that come to me from other schools teach much the same.

22322. Mr. STRATHGORN.—You have already explained the way in which these various kinds of mental occupation and drawing are useful in developing the children's intelligence, but have you any opinion as to whether ordinary school subjects—arithmetic, for instance—might be made more practical by being taught in a different way from what it is at present?—I have not considered the teaching of it in that way. Our arithmetic is taught very largely from the mental side; we don't use text-books in the school, and the first part, practically, of every lesson in the school is a mental lesson rather than a text-book lesson.

22323. But mental arithmetic is always part of the examination?—It is. In some cases, if the inspector is satisfied with the teaching, he will only judge the class by the mental arithmetic—by the oral examination.

22324. Without any card-test at all?—Without any card-test at all.

22325. But usually he has both?—Commonly he has both.

22326. Do you find it is necessary to use special cards to a large extent, in order to prepare for the inspector's examination?—No; but, in order to give

the pupils practice in reading from a printed card, for the last month or two we got a set, which we use, but we never think of teaching from them.

22327. Do you attach much importance to exactness in calculation—the quickness with which they can do ordinary sums?—Yes. I find the pupils who are quickest are most accurate.

22328. So, to begin with, a teacher ought to pay more attention to quickness than accuracy?—I think so; the accuracy will come.

22329. Taking arithmetic in standard 1, you don't think it would be a proper way of testing the work in that class to set the children three sums, give them an indefinite time to do it, and see how many were correct?—It would be the very same of wrong method.

22330. Would you be in favour of having one reading book in each class to be got up thoroughly by the pupils, so that they could learn it by heart?—No. We use as many as three or four books in standard 1 in the course of the year.

22331. And at the examinations you frequently have a test set to the various classes in unseen Readers?—In the upper classes the test is usually wholly unseen and from that day's paper.

22332. You don't object to that system of examination?—No; we rather prefer it.

22333. They are occasionally examined in the meaning of what they have read, although the passage is unseen?—That is so.

22334. But still you don't object to it?—No.

22335. You think that leads to proper teaching of reading?—Yes.

22336. You made a remark about the inspection of drawing for examination?—I beg your pardon, it was Mr. Graham.

22337. Well, would you say the same about other subjects?—I would prefer—

22338. That you should have an inspection of your school, seeing that the work you profess to do has been done, rather than set fixed tests on a certain day?—That is so. The main reason I could give for that would be that our smart classes have to mark time for the last four or five months of the school year, while the duller classes are getting over the allotted work of the standards.

22339. You cannot risk your grade being lowered from excellent to good by putting your children forward until the examination comes?—That is so.

22340. If you had not a fixed examination?—The system of classification would be much more at my disposal.

22341. You think there are children who are being kept back for a month or two under the present system who might have been advanced if there was no fixed examination?—I quite believe so.

Mr. William
R. Gibson.

Mr. WILLIAM R. GIBSON, Treasurer,

Edinburgh School Board, examined.

22342. Most Rev. Dr. WALSH.—I believe the resources by which your educational system in Edinburgh is maintained are of two kinds—local and Imperial?—Yes.

22343. Under the head local we may take the local rate—that is, the school rate—and we may also regard the Fee Grant as representing a local contribution?—Well, it is paid by the Education Department.

22344. Yes; but it may be treated as a local, as distinct from an Imperial, contribution. Then the Imperial contribution, strictly so called, is twofold: the grant from the Education Department and the grant from the Science and Art Department?—Yes.

22345. How much does the Government grant from the Education Department come to? I am asking you, of course, only about the grant to your Board schools, as distinct from the voluntary schools there, as we know, receive grants at precisely the same rate as the Board schools, so far as the Imperial grant is concerned?—Last year, for the day schools, we received £29,711.

22346. And then there was also a grant to these schools from the Science and Art Department?—Yes, £717.

22347. But that amount, I find, was paid for drawing alone?—Yes.

22348. The Science and Art Department gave you a further grant for manual instruction?—Yes, £336.

22349. That, then, makes £973 from the Science and Art Department, making a total of £30,684 for the Imperial contribution under both heads. Now for the local contribution. The local school-rate—the city school-rate—now amounts, in round numbers, to £30,000 a year?—Yes; last year it was £30,045.

22350. And the fee grant amounted to £16,084—your fee grant in Scotland is 12s. a head?—Yes.

22351. The £30,000 a year, raised as a city rate, goes to maintain the School Board's schools in Edinburgh, whether day schools or evening schools?—That is so.

22352. And your evening schools, I find, also get a special grant from the Education Department?—Yes.

22353. I think about £4,000 a year!—Yes, £4,043 last year.

22354. So that the Education Department gives you in Edinburgh £4,000 for your evening Board-schools in Edinburgh, and you seem to have a further grant, a small one, from the Science and Art Department for those evening schools, £283, I think?—Yes.

22355. By means of the large sum, £80,000 raised as a city rate, you are able not only to supply free education, but school books; you spend apparently over £2,000 a year supplying the children with books?—Yes; £1,974 for day schools and £132 for evening schools.

22356. It comes, I think, to an average of about 1s. 3d. per child, yearly?—Yes; 1s. 3d. for the day schools, calculated on the average roll.

22357. And I see that you spend about £3,000 a year in providing stationery and apparatus?—Yes; £2,458 for day schools and £551 for evening schools.

22358. And you also give £846 for prizes?—That is so, for day schools, £611, and for evening schools £235.

22359. These, I believe, are mainly prizes for attendance?—Attendance prizes.

22360. I see by the regulations that these prizes are given only to children who do not miss even one attendance in the whole year?—Yes.

22361. Am I right in saying that the year before last, there were over 600 children who never missed an attendance, and that last year, owing in great

measure to these attendance prizes, there were 1,700 who made that extraordinary record?—Yes. These numbers apply to the day schools.

22362. Of course, there are other charges upon your city school rate of £80,000, over and above those concerned with the mere working of the schools?—Yes.

22363. I see that the expenses of the School Board itself, including salaries of officials, office expenses, and so forth, come to between £4,000 and £5,000?—Yes, last year it was £4,705; and then I should explain that this £80,000 also provides for the repayment of money borrowed for the erection of schools.

22364. The accounts seem to show that the Edinburgh School Board borrowed, in all, for school building purposes, over half a million sterling, £515,800, and that it has paid off £198,600 of this, with the interest, of course?—Yes.

22365. Last year the Board paid off £14,000 of that principal, with £11,800 of interest?—Yes, the total amount paid under those two heads for the year, was £25,800.

22366. The teachers' salaries in your Edinburgh Board schools amount to £73,300?—Yes; £48,893 for day schools, and £24,399 for evening schools.

22367. So that if the whole £35,000 which you receive from the Education Department, and the Science and Art Department, for your day schools and your evening schools, with the fee grant of £16,000, went exclusively to the teachers, it would not be sufficient to pay them much more than two-thirds of the salaries they receive?—That is so.

Miss BRANDER, Mistress of the Infant Department, South Bridge School, Edinburgh, examined.

Miss Brander,

22368. CHAIRMAN.—You are the Mistress of the South Bridge Public School in Edinburgh, the Infant Mistress?—Yes.

22369. Will you tell the Commission under what circumstances the work is carried on in that school?—On the roll of the school there are 540 children with a staff of seven assistants and three pupil teachers.

22370. What is the average age of the children?—Seven years.

22371. And what is the average time spent in the department?—Two and a half years.

22372. What time is set apart for kindergarten instruction?—Two hours in standard one, and five hours in the junior infant class.

22373. What are the gifts and occupations taught?—Gifts three and four, stick-laying, tablet-laying, pricking, sewing, mat weaving, drawing, paper-folding, clay-modelling, and brushwork.

22374. What other subjects are taught in addition?—Drawing according to the Science and Art Department, sewing and drill, and a course of object lessons intimately connected with the kindergarten occupations.

22375.—For the past seven years has every child received instruction in kindergarten?—Yes.

22376. Since its introduction have you noticed a steady rise in the efficiency of the school?—Yes.

22377. Have you kept a record of the work done for any number of years?—For five years I have kept a record. The children are better prepared now than ever they were, in every branch there is an advance.

22378. What do you find to be the result of hand and eye and brush work, &c.?—I find that the children are perfectly able to place the impressions on the paper without any squares at all.

22379. Do you think that the knowledge of the measurement of spaces and the skill acquired by both hands in handling the brush alone, must be of benefit to a child?—Yes.

22380. And you think there is sufficient freedom of treatment to prevent its becoming mechanical?—I think so.

22381. Do the children learn clay-modelling with ease?—Great ease after the previous training.

22382. And you attribute that to the previous training they have had in the lower classes?—Yes.

22383. What do you find to be the results as regards drawing?—I found it to be very creditable indeed, especially the freehand.

22384. And the little girls learn it so well as the boys?—They don't get so long time but they do learn it.

22385. I understand that afterwards when they get up higher in the school they cease to learn drawing?—They cease to learn after standard 1.

22386. Do you think that it would be a good thing if they went on with their drawing?—I think to a certain extent it would.

22387. What do you think are the general results of the introduction of kindergarten?—I think it makes the children much more deft with their hands and much more observant than formerly. I think it improves altogether the tone of the school.

22388. Have you found that a particular boy of twelve years old who would not come to learn reading, was eager to come to clay work?—Yes.

22389. Do you see a great difference in the answering of the trained and untrained child?—A very great difference.

22390. What do you remark on that?—I see the benefit of training.

22391. The untrained child exercises his senses, but you think he does so in an inaccurate and vague sort of way?—In the trained child, accuracy and clearness are conspicuous, the individual ability of each is stimulated and the physical condition of the child is developed by the love of movement which gets full play in the games.

22392. You generally advocate the introduction of kindergarten into schools, even if it were only to break the monotony of the infant's school life?—Yes.

22393. But you think that it is especially beneficial to dull children?—Yes.

22394. Mr. MOTZOV.—Is kindergarten taught in any normal school to the students in training, we call them training colleges in Ireland?—I believe in one, but I am not prepared to answer that.

22395. In the case of those teachers who had no opportunity of acquiring a knowledge of kindergarten previously, what course would you suggest as a suitable one in order to have them made acquainted with this branch?—A full course by a special teacher,

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22396. Or if a number of teachers came to a particular centre the same object would be attained?—Yes, if model lessons were given to a class of children as part of the course.

22397. What is the age usually of the children in standard 1?—Eight is the average age, but seven in the whole department.

22398. Then you find for standard 1 two hours is sufficient to give instruction in kindergarten?—Yes.

22399. What instruction is there in drawing?—We give the Science and Art instruction in drawing, freedom and with a ruler.

22400. Is the sewing the kind that comes under the generic term of kindergarten sewing?—We have other sewing.

22401. Actual pieces of calico on which the children work?—Yes.

22402. Mr. STEWART.—Do you remember the time when kindergarten work was not at all common in the schools?—Yes.

22403. When the whole time was given practically to reading, writing, and arithmetic?—Yes.

22404. Do you think the proficiency in these days

was greater than it is at present?—Not nearly so great.

22405. In these days standard 1 was examined individually, each child was examined in reading, writing and arithmetic; certain tests were set to each child individually?—Yes.

22406. That is no longer the case?—No.

22407. Do you think there is less attention paid to the individual children now than there was when that was the rule?—No, I don't think so.

22408. You think the clever children are advanced, and those who are not smart are kept longer in the class until they are able to do the work of it?—They are.

22409. That is the classification is much better than it used to be?—It is much finer.

22410. And children make progress according to their natural capacity and not according to a forced rate?—Yes.

22411. Are the children kept longer in the infant department than they used to be?—A little longer.

22412. Before they must leave when they were seven years of age?—Yes.

Professor
Robert
Wallace.

MR. ROBERT WALLACE, Professor of Agriculture and Rural Economy in the University of Edinburgh, examined.

22413. CHAIRMAN.—You are Professor of Agriculture and Rural Economy in the University of Edinburgh?—Yes.

22414. And do you represent the Edinburgh School of Rural Economy?—Yes.

22415. And you have had experience in educational matters?—Well, probably, I had better say with regard to the experience I have had, this is my thirtieth session in Edinburgh, and I was before that fully three years a Professor of Agriculture at the Royal Agricultural College, Cirencester; and during my excursions abroad I have paid a great deal of attention to the working of all sorts of agricultural schools, in the Colonies and America, as well as Canada.

22416. Will you give a brief description of the Edinburgh School of Rural Economy?—The Edinburgh School of Rural Economy has only been instituted within the last three years. It was felt that there was a necessity for some centralisation of the work—it was done in too many centres, and under too many bodies—and a body of responsible representatives were appointed by the University Council and by the Highland Society to begin with, and they subsequently added to their number representatives from the Town Council of Edinburgh and from County Councils giving grants in support of the school, and that body is now known by the name of the Edinburgh School of Rural Economy, and it takes under its care all the different grades of agricultural instruction given in Edinburgh.

22417. Does it train teachers in agriculture?—It is not a teaching body at all, it simply receives grants from Government and other institutions, and passes a scheme of education, and among the schemes of education there is one for the teaching of schoolmasters.

22418. In agriculture?—Yes.

22419. Is there much done in that way?—There has been a very large amount done in Edinburgh in that way—it began in 1888, before this body was instituted at all.

22420. Do the schoolmasters come in, as they go to agriculture at Glasnevin, in Ireland, for a course?—The schoolmasters come for a month during the holidays, and devote the whole of their time to the study of agriculture and allied sciences.

22421. They only learn it theoretically?—There is no practical work further than that they go on Saturdays to farms in the neighbourhood.

22422. But there is no farm attached?—No.

22423. Can you tell us what work has been done,

a little in detail, in connection with this particular institution?—The instruction given, to begin with, when the men came in at first was in agriculture—forty lectures—and in chemistry twenty lectures, besides laboratory work. That was the work of the first stage of instruction for schoolmasters, and during the latter years a further development has taken place, and it is intended now to have chemistry, botany, geology, entomology, and probably other subjects taught principally in alternative years, taking perhaps two subjects each year.

22424. Do you have a system of examination of the teachers after they have been at work?—Yes, there are class examinations, and also certificates are given.

22425. I understand that agriculture is taught in Scotland in rural schools as a voluntary subject?—It is taught under the Science and Art Department and in the Board schools as a science subject.

22426. Mr. STEWART.—In evening schools?—It is taught in evening classes under the Science and Art Department, but it is taught as a science subject in the Board schools, and more so in recent years than formerly.

22427. As a specific subject, but it is not compulsory, as in the rural schools in Ireland?—It is not compulsory at all.

22428. CHAIRMAN.—How is it taught in Scotch schools—out of a book or practically?—An effort has been made to make it something better than merely book instruction. The schoolmasters when they come here have been taught methods of instruction, and they are recommended to use diagrams largely, and models, and also to take in specimens of all sorts of things that the pupils may be able to pick up in the country districts.

22429. There are three ways of teaching agriculture, one out of a textbook, as is usually done in Ireland, another, the one you have just mentioned; and the third way is by having example plots—which would you prefer?—The middle one; I don't think it is possible to teach agriculture by the other two methods satisfactorily, either out of a book or by farm plots.

22430. You don't think farm plots are any use?—They are only of use in a modified sense—you may teach a boy how to conduct experiments on a small scale; but agriculture can only be taught practically on an ordinary farm, conducted as a commercial enterprise, and that would be impossible in connection with a school. Whenever you put pupils in numbers on a farm you at once change the character of the farm and the character of the work you intend to

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task them, the work done by an ordinary labourer on the farm. I can read you one or two suggestions from my introductory address to the school masters:—

"It is intended merely that they should, by holding on the foundation of a good general education, become handy experts in the subject of agriculture, and be able to direct the youthful mind in proper process: above all, to encourage the development of the power of observation, in which there is so much necessity as a training for every walk in life, and so much scope and material constantly at hand in a country place."

I believe that an immense amount of useful elementary knowledge can be disseminated by schoolmasters if they will confine themselves to principles, leaving practice entirely to those who have spent their life in it.

"The employment of rural schoolmasters has many conspicuous advantages.

"To begin with, it is within the range of possibility to do so with the means at our disposal. We have in them educated men who are in direct touch with, and in constant reach of, the very elements we want to influence; we have, further, men who are trained to impart instruction. All that is really wanted under these circumstances is an assurance that the teachers are themselves interested in the work laid out for them. It is possible to do this if no work is not expected.

"I have no hesitation in saying I am fully convinced that if there were any elaborate attempts made to get schoolmasters to teach practical agriculture in Scotland, it would not only end in failure, but injure the chances of that success which I feel assured will attend their efforts in teaching scientific principles.

"It appears, from what I have said, to be clearly the work of the Government to confine their efforts to the dissemination of scientific principles, and leave to the practical agriculturists of the country the duty, as has been the case in the past, of training their sons in the practical operations which they, of all classes of the community, know best."

224431. Most Rev. Dr. WALSH.—May I take it that as regards the teaching of agriculture as an industrial occupation, you would put it on the same footing as the teaching, say, of shoemaking or tailoring?—No, you cannot put it on such a footing; agriculture in some of its different branches can be taught differently from the main subject of agriculture.

224432. I don't think you quite follow the question. Let me put it in this way. I take it that you are not in favour of teaching trades, say, the trade of a tailor or of a shoemaker, in the elementary schools in the country?—No, of course, not.

224433. My question was whether you would not, to that extent, put the teaching of agriculture or, let us call it, farming, on the same footing as the teaching of a trade; in other words, you would not be in favour of recognising the teaching of farming as a branch of elementary school work?—Certainly not.

224434. But you would favour the teaching of certain principles which would be of practical use to a boy when he afterwards goes to work on a farm?—It is so to some extent; but I believe the teaching of agriculture will do more to develop his power of observation than any information he would derive from it.

224435. I understood you to say you were opposed to the teaching of agriculture in elementary schools?—I am not opposed to the teaching of agriculture in elementary schools.

224436. Then it is better to ask what you mean by agriculture?—It is difficult to define the subject of agriculture.

224437. Suppose we take it as meaning the cultivation of land?—You can say it is the cultivation of land, but that does not embrace everything included in agriculture.

224438. Of course not. But this will bring out the point. You are not in favour of teaching the cultivation of land in the elementary school?—Certainly not.

224439. And you are in favour of teaching those principles that underlie the proper cultivation of land?—Yes.

224440. Monsieur MONTAG.—I notice here you say that schoolmasters who receive instruction in agriculture in the University under yourself, and agricultural chemistry under Dr. Aitken, and agricultural entomology, qualify later on by studying those branches for the degree of B.Sc. in agriculture?—No; that is quite a different thing, the degree of B.Sc. in agriculture is apart altogether from what you see there.

224441. It has nothing at all to do with the schoolmasters?—No.

224442. When the schoolmasters receive your instruction in theoretical agriculture are they entitled letter on to a diploma or certificate?—They get a class certificate, it is not anything like a diploma.

224443. Would this certificate qualify the man to earn money in the teaching of agriculture, that he would not earn by any other means?—That does not qualify him to earn under the Science and Art Department; it is not accepted by the Science and Art Department unless he works under a local board. If there is a local board established, and they say that man is qualified, then the Science and Art Department will recognise him.

224444. Then the schoolmaster attending your lectures has this advantage, that he acquires a knowledge of the subject?—Yes, and of methods of teaching.

224445. Captain SHAW.—Have you considered the syllabus of agriculture, as laid down by the Scottish Education Department?—I don't think I have paid much attention to it.

224446. You know it is taught as a specific subject. "The principles influencing the supply of plant food in the soil, necessity for cultivation, circumstances making tillage more or less effective." That is the first stage. The second stage is, "The principles regulating the more or less perfect supply of plant food, manures and supplementary sources of plant food." Third, "Principles relating to the growth of crops and variation in their yield and quality." Is that what you would sketch as suitable instruction to be given in an elementary school?—So far as it goes it is all right, but it does not include anything like the amount I would wish to be taught. I have not studied it, but from what you have read there it is certainly not comprehensive enough; it is good enough for a beginning.

224447. You recognise the fact that the children will probably only be taught for a two years' course, and have a few hours' instruction in the week?—It would be difficult to bring in all the country labourers under that heading.

224448. It may be supplemented, perhaps, by the formation of collections of natural history—minerals and such like?—Yes, and these German models of all sorts of things ought to be brought into the teaching of agriculture; in Sweden and Denmark the schools are properly provided with magnificent sets of specimens that are of the greatest use to the young people.

224449. Mr. BRUCHER.—May I ask to what set of models you refer?—Almost anything—minerals.

224450. You mean the model of a cow?—Model of a cow or a horse, the internal arrangements of them, and the implements of the farm, everything you could mention is modelled and shown in these German and Danish and Swedish schools.

224451. Captain SHAW.—Is this course now that is given on page 26 of your book for schoolmasters?—Yes, this is the course for schoolmasters this year.

224452. And that is the style of thing which you expect them to teach to their students when they go back?

—We have had somewhat of a rotation of subjects in the country places; agriculture will be taken one year, botany the next year, the principles of chemistry the third year, and physiography the fourth year. To try to get an educational rotation of subjects, because it is impossible to keep agricultural classes going consecutively, botany will be taken up one year and

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chemistry perhaps the next, and it is not intended that chemistry and botany should be taught every year. These are the subjects taught this year, next year probably geology and entomology, or perhaps some other subject may be taken up.

23452. Does not agriculture include them all?—Yes, they have a bearing on agriculture, and agriculture cannot be taught without a knowledge of them.

23453. I don't quite follow what you would call agriculture as distinguished from these subjects?—The subject of agriculture deals with the cultivation of crops, the management generally of the farm, and you cannot exclude altogether other subjects, for they come in at all times in the learning of agriculture.

23454. Would you be in favour of the children working in the laboratory themselves?—Yes, the more practical work they can get in the laboratory the better, and the more they can use the magnifying glass when dissecting the specimens the more interest they will have in the work.

23455. And you think children from 11 to 13 will be able to do that?—Oh yes, they can do flowers, and make collections of plants and all sorts of things connected with agriculture; collections of grasses and all those subjects that come directly or indirectly in connection with agriculture.

23456. Would you consider it any use of children learning off by heart the description of various breeds of animals and cattle, and so forth?—No, I don't believe agriculture can be taught at all unless you get the children interested in the subject, and get them to know what they are studying—there is no good in teaching agriculture as a mere matter of memory.

23457. Or yet, learning how many sort of a particular manure you have to put into a particular field to grow a particular crop?—I think that probably is too much for a young student to know, but I think it is an exceedingly important thing that they should know what the manures are that go to the particular crops.

23458. But these details of figures you don't think are necessary?—These are subordinate things, which may come in or may not, but I should not place any importance on that kind of mental exercise.

23459. If you had trained a teacher to teach agriculture would you expect him to have recourse to a text-book with the children?—It would be best taught if he were the man who used the text-book, and instructed them by writing on the board, and by dictation and explanation. I don't think it is absolutely necessary to put a text-book in the children's hands—it is dangerous to trust too much to it.

23460. He should be cultivating the children's observations all the time by experiments?—Yes, and not use a text-book that probably is too advanced for the children.

23461. Mr. BRUCEWATER.—Do you represent the views of the committee of management of this school; there is a committee of management of the School of Rural Economy?—I don't know that I am here to represent their views, but only facts I know; I can tell you what their views were in the past.

23462. The opinions you give are your own in the first place?—This school was established by myself; they have only taken over the management in the last three years, so, of course, I know the working in a way that others do not.

23463. But you give expression to certain opinions as to the proper teaching of agriculture?—Oh, yes.

23464. Are these your own, or are they shared by the committee?—I don't know what the opinions of the committee are as regards methods.

23465. You receive certain funds for the working of this school, part of which is expended in these classes for training teachers; what other work is carried on by the school besides training teachers?—They receive a grant from the Board of Agriculture, now it comes through the Scotch Department, for the

different classes that are being taught in the various schools, the Heriot-Watt and Dick colleges and the botanical gardens, and they formulated a scheme by which the teachers employed in those schools are enabled to do the work necessary for agricultural teaching.

23466. That is, they are the agency through which this grant is distributed to various special schools?—They are the educational authority of Edinburgh to receive all grants from the Government that have to go to these different schools.

23467. In addition to that work they maintain special vacation classes for teachers?—Yes, but for these they get grants from the Government, also.

23468. Besides what they get from the school of Rural Economy?—The funds of the School of Rural Economy come entirely from Government and the County and Town Councils.

23469. You contribute certain money for the conduct of these vacation classes for teachers?—Yes, that used to come from the Board of Agriculture.

23470. Does it come through the School of Rural Economy?—Yes.

23471. There is no other grant from Government?—No, but there are grants from County Councils.

23472. But that also comes through this Board?—Yes, or it may be paid to the men themselves, some of the County Councils give £5 a head to each man who attends.

23473. These vacation classes are for the purpose of enabling teachers to give satisfactory agricultural instruction to their schools?—Yes.

23474. Do you think the training for a month is sufficient for that purpose?—It is all you can give for the first year, and after going through this preliminary training a great many come back for a further course.

23475. But you have formed no opinion as to whether these men at the end of their first course of training are in a position to give really efficient agricultural training in the school?—They are infinitely better able than they were before, and many of them were teaching under the Science and Art Department and Scottish Code.

23476. Then this is, in fact, a supplementary class?—A great many never had teaching before they began it from text-books.

23477. What sort of agriculture do you wish that these men should teach in the schools when they go back?—First of all you don't wish the practice of agriculture should be taught in any form?—Oh, no.

23478. There is a scheme for teaching of agriculture in the Code here, which has been already referred to. You said you would amplify that. Would you change it at all?—I think I would draw up a different scheme from that. I have not taken it in fully, but it does not seem to me to cover much ground.

23479. Could you specify some of the points on which you would amplify it?—There is nothing about stock. I think children of that age if they are to learn anything about stock should learn it when they are young.

23480. Of what age are you talking?—Children begin to learn about stock when they are seven or eight, the younger they begin the better.

23481. They learn that at home?—Yes.

23482. Could you add anything of practical value to that teaching in the school; for instance you said you would add on some teaching about live stock to the programme of agriculture; on the other hand you say they receive that teaching at home?—They receive all they get of it at home.

23483. You propose to add to the present programme in the school some teaching about live stock?—Yes.

23484. Then all the teaching about live stock should not in your view be got at home?—They cannot get it fully at home.

23485. And you think the schoolmaster could usefully add something to their knowledge of live stock

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by oral teaching in schools?—I am quite certain of it, and I think a great deal might be taught to children with regard to implements by using diagrams.

22496. But the actual object is always better than a diagram, is it not?—Oh, yes, and if you could get models so much the better.

22497. Not models even, but the actual thing?—Yes.

22498. In most districts in Scotland are not the primary agricultural implements within the reach of almost every school?—They could take the children out to a farm.

22499. Would it not be better to take them out on the farm and show it to them there?—It would be a waste of time if you had a complete model; you could teach the children better from that than taking them out on the fields.

22500. Take the model of a reaping machine?—Yes, or the different parts of a plough.

22501. When a boy grows up, and begins to be a farmer of sixteen or seventeen, he will get to know the various parts of that plough very well, even if he was not taught a word about it?—Yes, but he will have gained a great deal of benefit by taking an interest in the construction of the plough.

22502. Don't you think it is better to give him such instruction at the age at which he begins to use the plough, sixteen or seventeen; let him come to a special class for the purpose?—Yes, if he will do so, but you will only get a limited number of boys who will come back to the classes.

22493. But a great deal might be done by outside courses, for instance they might learn to distinguish certain kinds of grasses?—I thoroughly agree in that.

22494. Also certain kinds of weeds which were particularly harmful to agriculture?—Yes.

22495. They might also make collections of insects (insects)?—Yes, but I don't think they would learn so much in excursions in connection with these objects you speak of as they would by making collections and bringing them into the teachers, and getting them to explain, but I thoroughly believe in instruction in the fields.

22496. Have you seen the programme issued by the French Government for instruction in agriculture in rural schools?—Did this appear in Major Craig's report? No, I have not seen that.

22497. Well, in this programme, they advocate such making of collections as you speak of, but they also begin with certain very elementary experiments in physical science, so as to show the nature of air and water—they proceed to show the difference between a plant grown in a pot without manure in an absolutely sterile soil and another grown in soil with certain manure added; they also have further experiments showing the effect of different combinations of manure. Would that be useful instruction?—Yes, for the higher classes. I would call that distinctly advanced compared with what you should begin with.

22498. That might be called elementary science leading up to agriculture?—Yes, the principal branch of elementary science.

22499. Is there any kind of agricultural instruction different from that that you would like to have given in a school in addition to these things we have mentioned?—That is practical demonstration. I certainly think a great deal can be taught by explaining without a model at all.

22500. You mentioned, for instance, that they should be told something about live stock, different breeds and proper methods of feeding, in these any other point you would have taught in an elementary school?—I think a great deal could be taught a boy about the benefits of drainage on a farm and drain-pipes, and the benefits of top dressing with different materials.

22501. Of course you are remembering this point—that in every rural school there are a very large number of boys who are not going to be farmers. Would it not be better to teach them elementary principles of science bearing on drainage rather than the work of drainage?—I have no objection to elementary principles of these other sciences coming in their proper place; take them in rotation—give agriculture one year, botany the next year, chemistry the next year, or vary the subjects, so that the boys never get tired of them. We had no less than 15,000 pupils taught in Scotch country districts, and I have heard from schoolmasters it was impossible to form a class of agriculture every year; they must vary the subject.

22502. If you taught the elementary principles of science rather than agriculture specifically you could have a great rotation of subjects?—Yes, but I don't think you should teach it in place of agriculture, because in what I call agriculture some things you cannot get in any other branch of science.

22503. Many of these children are not going to be farmers, therefore what is taught to these children should be what is useful for all, as elementary science would be, while agriculture would be useful for those going to be farmers only?—I don't think so, I think elementary agriculture would be quite as useful as elementary botany or elementary geology to anybody, because it is not so much the facts that he becomes possessed of as the benefit the teaching confers on him. I believe agriculture could be made more interesting than any one of these sciences, and you would do more good to a boy than by trying to teach him the bare and dry sciences.

22504. If science is taught with experiments and making collections as you yourself suggested, it can scarcely be called a bare and dry science?—You can improve it to some extent; still I don't think any are so interesting as agriculture—fascinating for the pupil.

22505. Have you seen a teacher giving a lesson in agriculture in an elementary school?—No, I don't think I have.

22506. In the course of a somewhat careful inquiry in Denmark we found that as a matter of fact agriculture was not taught in the elementary schools at all there?—No, but it is taught in a very superior way in the intermediate and higher schools.

22507. But then you spoke of certain models to be seen in the schools of Sweden and Denmark?—Those were the higher schools.

22508. Then you are of opinion that real agricultural teaching should begin in the intermediate and higher schools?—I mean the teaching of agriculture thoroughly—you would not depend on the teaching given in the elementary schools?—No, I think it ought to begin in the elementary schools.

22509. But you lay stress on the teaching that comes in in the intermediate and higher schools?—I lay equal stress on the elementary work.

22510. Suppose you want to produce a class of thoroughly trained agriculturists who have a complete knowledge of the subject, and are likely to improve the agriculture of the country, you would require to have higher schools?—Undoubtedly.

22511. Have you any idea what form that higher instruction should take?—They will simply have to expand the subject and go into a little more teaching.

22512. Would you have special institutions in each county?—Not in each county.

22513. Perhaps three or four in each county in Scotland?—I don't know that special institutions would be necessary; I think sides to those institutions now in existence, sides to scientific institutions, such as the Perth Academy and higher schools.

22514. Most Rev. Dr. WALLACE.—I understand from one of your pamphlets that you are totally opposed to the idea of having one great central establishment for the purpose of teaching agriculture?—Distinctly so.

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22515. Mr. STRUTHERS.—Then attaching sides to existing higher institutions, you would practically have one in each county?—Perhaps so.

22516. Do you attach any importance to teachers going around lecturing to farmers?—No.

22517. Or to plots for experiments?—Not if the results are to be published. You cannot have experimental plots conducted on a small scale, the

results of which are of any value to the public. But these small plots may be conducted for the purpose of illustrating how experiments should be conducted.

22518. Suppose you had some such plot in the county and an expert employed by the County Council to go round and give lectures, using this plot as his basis of demonstration, would not that be a useful form of instruction?—You could not gain any benefit from that to my mind.

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Oct. 31, 1897.

FORTY-NINTH PUBLIC SITTING—THURSDAY, OCTOBER 21st, 1897.

AT 1.30 O'CLOCK, P.M.

At the School Board Office, Edinburgh.

Present:—THE RIGHT HON. THE EARL OF BELMORE, O.C.M.G., in the Chair; HIS GRACE THE MOST REV. WILLIAM J. WALSH, D.D.; THE RIGHT REV. MONSIGNOR MOLLOY, D.D., D.S.C.; REV. HENRY EVANS, D.D.; REV. HAMILTON WILSON, D.D.; STANLEY HARRINGTON, Esq., B.A.; W. R. J. MOLLOY, Esq.; CAPTAIN T. B. SHAW; and J. STRUTHERS, Esq., B.A.,

with J. D. DALY, Esq., M.A., Secretary.

Mr. Andrew E.
Sengul.

Mr. ANDREW E. SENGUL, M.A., F.R.S.E., One of Her Majesty's Inspectors of Schools in Scotland, examined.

22519. CHAIRMAN.—You are one of Her Majesty's Inspectors of Schools in Scotland?—I am.

22520. Will you give the Commission your views on manual instruction as a subject in primary schools, including kindergarten work?—Would your lordship prefer that I should take manual instruction first?

22521. I think so; it is what is on the paper last. We better take it up first?—Then I have to speak with more special reference to the schools in my district in the borough of Leith, where alone as yet the manual instruction is fully developed, as fully, that is, as we have yet been able. It was not until the year 1895 that manual instruction, hand and eye training, was taken up in Leith throughout all the schools, and throughout each school as a whole from top to bottom.

22522. How many schools are there in Leith?—Twelve public schools, outside of two denominational ones, that I have to inspect. But I am speaking specially of the public schools. The occasion of the taking up of that subject was the change in the Scotch Code, which for the first time recognised manual instruction specifically. Of course it follows from that that we are practically only finding our way as yet; we are not into our third session of the full course of that work. But after conference with the School Board and the teachers—that is a conference between myself and them—it was resolved that the experiment should be made. I think I need hardly trouble the Committee with the general grounds for the teaching of that subject unless they wish; they must be quite familiar with the arguments. Then, of course, we began so far tentatively; but I should have mentioned that, previous to the introduction of manual instruction in the standards generally, we had introduced, I think about the year 1889, kindergarten work in the infant departments, and part of the instruction and argument to take up what you might call advanced kindergarten work, or to further hand and eye instruction in the standards generally, throughout the rest of the school, was derived from the great benefit that teachers and managers and myself felt had

accrued from the introduction of kindergarten in the infant department. The work, as I have said, proceeds systematically from the lowest standard in the mixed school, that is after the children leave the infant department, right up to the highest standard in the school. I should explain that in Leith, except in two schools, there are no children in what is called the ex-sixth standard. The number of children remaining to that age was so small, comparatively, that the Board decided to organise matters by collecting these children beyond standard six into schools specially staffed to carry the instruction beyond the limits of the ordinary course. Between standard one (or two as the case may be in the organization of the school), that is, beyond the infant department and up to standard six, the schools go through a regular progressive course.

22523. Do you consider standard one as being in the infant department?—Sometimes it is and sometimes not. It depends upon the organization. There is an option in that respect given under the Board's regulations, and some prefer to keep standard one as the highest class of the infant department, and some to bracket it with the senior school. I prefer the first arrangement myself: I think it forms a very fitting connection in the infant department. With regard to that, there are some schools even yet where children come to school of too old an age to be admitted into the infant department, and yet of not sufficient attainments to go any higher than even the infant stage or the first standard; and, therefore, in some of the schools dealing with the poorer classes of children, we have an infant department ending with the first standard, and a mixed department beginning again with the first standard for these specially backward children—that is, those who could not profitably go into an infant department, and yet could not go higher than standard one in a mixed school. The course of manual instruction was wisely, I think, left to be worked out a good deal by the teaching staff of each school, subject of course to some general understanding as to the purpose of the work and the progressive stages

that should be taken up. I have been favoured by the teachers with outlines of several of the special schemes adopted, which I shall be very glad to put at the service of the Commission. Perhaps the best specimen is that from the Craighall-road school. I should mention that the manual instruction is given to the boys only. The girls have extra work as compared with the boys, in respect of needlework and domestic economy, and cookery also, and these subjects were considered to be so far manual instruction for the girls, developing the same lines, and so the scheme of manual instruction is confined to the boys throughout all the standards. The course that I have before me here from Leith Craighall-road school, takes, in standard one, embroidery, flower making, basket weaving, clay modelling and other handicraft work.

22524. That is for girls?—No, this is for boys. What is called embroidery is merely the stitching of outlines of forms in coloured threads; the boys do that. Standard two, paper measuring, cutting and mounting and a further development of clay modelling. Standard three, drawing, setting and covering simple rectangular forms in cardboard. Standard four, the same as the above with more advanced forms and stronger materials. Standard five, woodwork. I may mention that this is the only school of the twelve public schools in Leith in which woodwork has been taken up. The others have not yet reached that standard of development. I was quite clear that we had to begin cautiously, that what was to be done should be done thoroughly. They take, in woodwork, sawing, planing, chiselling, gauging, instruction in the use of tools and in the structure and uses of different kinds of wood; and, in the more advanced form, mortise and tenon joint, inlaying and modelling. As I have already said, we must consider that we are so far yet only making experiments. I have talked to members of the Board; I have conferred, quite recently, for the special purpose of this evidence, with selected men amongst my teachers, and they all agree with me that the value of this work is proving itself, year by year, more and more.

22525. What have you done in the way of elementary science?—Elementary science begins at an early stage with us; of course a good deal of initiative in matters of that sort must come from the terms of the Code under which the schools work, and which, whether fortunately or not, is taken as a sort of Directory of the kind and amount of instruction.

22526. What is the purpose and value of such instruction, under the head of elementary science?—Well, the value of such instruction has been forced upon me, after many years of inspecting work, by a feeling of—well, I must just simply put it boldly—a sort of weakness in the results that we gain from a too limited direction of the whole energies of teachers and children upon, practically, the three R's or a little more. My services go back to the time when the Code demanded little more than the three R's, and one felt, really, that it was a hopeless state of things that so little educational outcome should result from the devotion of five or six hours a day of the children's time to the three R's only. That led me to be very desirous to introduce variety into the curriculum of school work, so long as that could be justified educationally.

22527. What do you consider its place in the curriculum of school work?—I think the place of elementary science is, in the first place, as I have said, to introduce an interesting variety into the curriculum, to meet a felt want in the course, that is to say, to meet a natural desire of the child's mind. A child is essentially an inquiring being, and it is a great pity that he should leave school without knowing anything about taking an intelligent conscious interest in his surroundings in the world and amongst his fellow men. The special educational objects of elementary science I take to be the training of the children's powers of observation, and of deduction

from observations actually made; and the cultivation of their general intelligence, and, along with that, of greater width of vocabulary and greater precision and force in the use of language.

22528. What are the particular aims and special methods in the teaching of it?—The particular aims in each class, and the corresponding methods, must be gauged by the stage of intellectual development of the child. It is obvious that a child of seven or eight in standard one is not capable of the same range of work in that way as a child of twelve or thirteen in standard six.

22529. You sent the work to the standards in the school?—Just so.

22530. Then all the children of standard six would do a particular sort of work, and all the children of standard five another sort?—Yes, and as regards method, one essential point is that the stages should be carefully graduated so as to lead on to one another, and that a higher stage should help to enlarge the knowledge gained in a lower, and render it more complete and exact.

22531. In cases where elementary science is introduced, has the knowledge of elementary science or the capacity of a child for elementary science anything to do with his promotion from one standard to another in the school generally?—I am afraid not.

22532. That depends entirely upon the literary proficiency?—Practically that is so as the thing is laid down in the Code, upon his proficiency in arithmetic. That is the departmental subject upon which the line is drawn. There is freedom of classification theoretically introduced under the present Code, but I am afraid it is not sufficiently taken practical advantage of. One may say practically that a child's proficiency in arithmetic makes the differentiation as to his stage in school.

22533. As regards the teachers of elementary science, do you prefer ordinary class teachers trained to teach it or special teachers?—Without hesitation, as regards the elementary science, it is preferable to have the ordinary class teacher.

22534. Why is that so?—Because we use the subject entirely as a portion of the ordinary curriculum of the school; it is simply taught like other subjects that we call the class subjects.

22535. Are the teachers all expected to be able to teach it?—Well, I don't know that one can say exactly that all are expected to teach it at present, but there is no doubt that matters are growing in that direction. The subject has been put into the Code, a good deal of science is taught in the training colleges, and the teachers know that very probably they will be called upon to teach it, and so they do, more or less, even for this work.

22536. How do you train teachers for such work?—They learn specific Sciences, several of them, more or less, according to their own predilection in the training colleges, and they are there taught, of course, methods of teaching.

22537. Are all your teachers trained teachers?—All have gone through the training colleges, except a few that have been pupil teachers (or their equivalents by examination), and have subsequently passed the Government Examinations for a Teacher's Certificate. Practically one may say that all the teachers in these schools are trained teachers.

22538. There is one other sub-head, and that is how do you provide for the expense of such instruction in primary schools?—The School Board of Leith, I am glad to say, and I am very grateful to them for it, have been energetic and liberal in that respect. They have provided all the necessary equipment for both hand and eye testing and the elementary science work—material, apparatus for experiments, museum cases; and I may mention in that connection that they have very wisely started in all their schools a good school library, both reference and reading, and that they have in connection with the woodwork salaried a special teacher, an artisan and expert teacher in woodwork.

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22539. Is that considered more advantageous than having an ordinary teacher trained?—Well, I am afraid they could not help themselves, circumstances as they were.

22540. Suppose you had the choice, which would you prefer?—I should prefer a trained teacher who had acquired sufficient technical skill.

22541. You would prefer to train a teacher in technical skill rather than take an artisan and train him up to be a teacher?—Undoubtedly, both for the proficiency and the principle, for I consider all these things portions of the regular school work.

22542. What do you consider the place of cookery and laundry instruction in primary schools both as regards their place in the curriculum, and also as regards the staff and equipment for them?—I am a little doubtful as to these subjects in this way: they seem to me to be subjects of a kind that belongs more to practical arts than to educational lines of development, and I should be inclined to restrict the teaching of those subjects to children of a more mature age than we have to deal with in our ordinary elementary schools, that is certainly above twelve years of age. The Code says the fourth standard, but my personal opinion is that the children of the fourth standard can be better employed than by being taken to learn mere practical arts.

22543. Have you many children in the Leith schools who are learning cookery or laundry work?—The girls of standard five and six throughout the schools, and, in some cases, of standard four, learn cookery, but laundry work was taken up only for one year, and that has been abandoned within the range of the ordinary standards. It is taught at Craighall-road in what is commonly called the secondary department, which is considerably above the range of the ordinary standards.

22544. What is the position of needlework instruction in primary schools in Leith?—I can speak of it with the heartiest praise: exceedingly satisfactory.

22545. How many hours a week do they give to needlework?—They used to give more than they do now. I think that on the average, as far as I can gather, it does not amount to more than two and a half or three hours. The curriculum has been widened, and the amount of time devoted to that subject has been cut down; but I have seen no practical result of that in the way of deterioration of the work, beyond some diminution in the quantity of finished garments turned out. I may mention that the Leith schools, being large, thoroughly organized schools, some of them holding from 1,800 down to 600 children, have all special instructors in needlework distinct from the rest of the staff. The common arrangement throughout the country in the smaller schools is that one member of the ordinary female staff takes charge of the needlework, or it may be more than one member; but in the Leith schools they have a special sewing mistress who devotes her whole time during the whole of the day to needlework instruction and takes the children from the different standards in relay.

22546. Mr. SEYMOUR.—And in a large school she has an assistant?—She has in three of the schools.

22547. CHAIRMAN.—Do you find that any of the little girls, before they come to school, have been taught needlework at home?—Yes.

22548. They have not to begin at the beginning?—In some of the schools they have: it depends on the class of home from which they come.

22549. I believe you are not able to speak of drawing from personal experience?—No, I am not, except on a general consideration of the matter of the curriculum. I should like to mention this, however, in connection with the hand and eye work and drawing—I was very much struck at the conference I had on Monday with my teachers, two of whom are specialists in drawing, that they volunteered to me the rather striking testimony that the hand and eye training proved to be a very distinct help to the drawing. It had not occurred to me as a probable result, but

they testified of their own accord that the hand and eye training had had a very decidedly good effect upon the quality of the drawing.

22550. Dr. EVANS.—I think you said that manual instruction was introduced in Leith in 1895?—That is so.

22551. You have not, therefore, any very long experience of its utility?—Not beyond that time.

22552. But such experience as you have I presume is in the favor?—Most distinctly, and I may mention that the evidence of the teachers is unanimous in its favor.

22553. Have you yet been able to find how it bears upon the ordinary subjects of the curriculum?—Well, if you mean, Has it any deteriorating effect upon the other subjects? I can testify to the contrary decidedly.

22554. So that from its effect upon education you would not wish to see it abandoned?—Certainly not, I would rather see it developed.

22555. Is manual instruction given in all the standards?—Yes, in the Leith Board Schools; I am not aware that there is any other School Board in Scotland that has carried out the thing so systematically.

22556. What would be the models in the first standard?—There are a great variety, these are a little above the infant stage; embroidery, flower-making, basket-weaving, paper-folding, etc.

22557. That you call rather an extension of kindergarten?—An extension of kindergarten.

22558. And it was the value that accrued from the teaching of kindergarten that led you to desire the introduction of the manual work?—Certainly. I maintain that the two things are practically and educationally the same.

22559. About where would the manual instruction properly come in?—I should say that these are all manual instruction. Would you kindly define to me exactly what you mean by manual instruction?

22560. Where they would begin to use tools, I suppose is the simplest way I could put it.—They use tools to a certain extent in part of the paper-folding, they use a small paper-cutter. In the clay-modelling they use a tool to a certain extent, a sort of blunt knife for the flax work; in designing patterns and bringing out details in the cardboard work, they use an iron ruler; they use a knife and measuring instruments for exactness of dimensions, and from that stage upwards they always use drawing in connection with the hand and eye work.

22561. When did you begin to teach elementary science?—It began in a tentative way in one school, where the master had a taste for it, in 1888. It grew in various schools after that. At first it was taken as a class subject, chiefly for the boys against the needlework for the girls. Time after time I got from teachers a request that they might change their timetable and curriculum in order to let girls have the benefit of elementary science as well as the boys, because they had found it so beneficial that they wished to carry it through the whole school, instead of confining it to the boys; and, in 1895, when the curriculum was finally rearranged, it was decided to give elementary science throughout the school to boys and girls.

22562. In what standard do you begin the elementary science?—On the same analogy as the hand and eye work is merely a development of the kindergarten, the elementary science is merely a development of what is called object lesson instruction.

22563. And you are equally satisfied about its utility as you are about the utility of the manual instruction?—Even more so, because we have had longer experience of it; and I am personally aware there is not a school in Leith would willingly give it up.

22564. MESSRS. MALLOY.—Continuing that subject—is physical science taught on a particular programme, or is it taught out of a text book?—We had a consultation, the Board and the teachers and myself,

and, as far as I recollect, the subject was started by a book published by Longmans, on *Object Lessons*. That was at a time when our Scotch Code gave a tripartite division in elementary science, and allowed the teachers to take up any one of the three divisions, namely, plant life or common things, leading up to elementary knowledge of physics and mechanics and electricity and chemistry. After due consideration and conference with the teachers, and after some experience of the more limited teaching before, where they had confined themselves, as it were, to one branch in each of the schools, we came to the conclusion that it would be very much better to treat the whole thing on broad lines, and the schools now take up in the course of the year throughout all the standards the whole three divisions of the elementary science subjects, that is to say, it includes animal life, plant life, knowledge of common things, manufactures, and something of electricity, chemistry, mechanics and physics.

22565. And generally, I suppose, the scientific principles that underlie the common phenomena of nature?—Just so.

22566. Was there a special programme prepared for this course, or does the teacher follow a text book, or is he left to his own discretion in selecting the subjects?—The staff of each school was left to its own discretion in drawing out a programme which was submitted to me for approval. They ran on general lines, but there is, I am glad to say a good deal of variety between school and school.

22567. Will you give us one or two of these programmes?—With pleasure.

22568. Probably you are acquainted with the way in which these subjects are taught in the schools of Edinburgh, for instance, in such a school as Science?—I have no experience of the Edinburgh schools.

22569. You cannot say whether they follow the same lines as in your own district?—I cannot say at all.

22570. Is physical science taught generally in the Leith schools?—Yes, this subject of elementary science is taught in all the schools, throughout all the classes.

22571. Then most of the boys and girls taught in these schools learn physical science?—All the boys and girls.

22572. And, as you say, you don't aim at teaching particular branches of science, but rather at teaching the simple facts of animal and plant life, and the general principles that underlie the common phenomena of nature?—Exactly so, so that the children shall be taught to observe for themselves and draw inferences.

22573. I suppose that, in these lectures, the professor gives an exposition, and illustrates his exposition either by objects or experiments?—That is insisted upon as a part of the correct method.

22574. Are the pupils called upon to make experiments for themselves?—In all the best schools that is what one aims before one; I am afraid in some of the classes it depends very much on the teacher. Sometimes one has to check the neglect of this.

22575. When you find the teacher fit, you get him to train the pupils to make experiments themselves?—Yes, it is done to a large extent.

22576. Do you find this subject popular with the pupils?—Undoubtedly, it is a very favourite subject with them.

22577. With regard to manual training, how long is it since manual training was introduced into the schools of your district?—In the session 1895-96. We have had two sessions of it running; they are beginning the third.

22578. You speak now from the experience of two sessions?—Yes.

22579. You don't see any tendency on the part of the school authorities or the parents to give it up?—I have heard nothing to that effect. The School Board

and teachers are strongly in favour of continuing it and developing it.

22580. Is it popular with the pupils?—The most popular part of the school work probably.

22581. And how do the parents affected towards it?—Well, I really have no special information about that except a very interesting letter that I got from a member of the Leith School Board, who, I may say, is a practical engineer himself and is out of work in consequence of the strike. I heard when I was making inquiries in Leith about some of the work there for the purpose of this Commission, that he had been personally visiting the schools. He is a newly elected member of the School Board, and came in rather on the economic side,—thought there was too much attempted. He had been round the schools within the past few weeks. I heard that and wrote to him, and he wrote me a most enthusiastic letter as to what he had seen, and his conviction as to the work done. He used a good many more favourable epithets than I am generally able to use in my official reports. He was quite enthusiastic.

22582. And he is gradually coming to be such a rigid economist?—Quite so. He said two things: one was that the woodwork astonished him greatly; the quality of the work turned out was such that it would put to shame the actual work of many tradesmen he came in contact with; and in regard to the schools generally he said that, as compared with education in 1872, the state of things in our schools now was simply perfect.

22583. We may take it generally that you agree with the evidence we have uniformly got, that where this manual training has been introduced it has become popular both with the pupils and the parents, as well as with the teachers and the school authorities?—Most emphatically. There is one special development of manual work in Newhaven Victoria school, a fishing school; it is the only case in which I have seen what is called wirework; it seems to be attractive, and educative also.

22584. Captain SHAW.—Do the students in the senior classes, the sixth standard, work for the leaving certificates much in the Board schools?—Oh, no; it is several years beyond the sixth standard—I should say at least three—the leaving certificate. You don't mean the merit certificate?

22585. I meant the leaving certificate?—The leaving certificate is practically for a stage some years beyond the sixth standard.

22586. Mr. STRICKLAND.—It is meant for secondary schools?—Certainly.

22587. And for such higher departments of elementary schools as are practically on a level with secondary schools?—Yes, specially organized.

22588. Captain SHAW.—There does not appear to be any science paper in this leaving certificate?—No, there is not, as far as I am aware.

22589. Would that tend to discourage the teaching of science in the schools at all?—I think not, as science is taught on the lines I have been speaking of in our elementary schools.

22590. Do I understand from you that each teacher teaches one standard in all subjects?—Yes, that is the normal way in the elementary school.

22591. Does he follow the standard, or go on with a new lot of boys in that same standard next year?—That practice varies; it depends on the head master's idea of organization; it is sometimes one way and sometimes another. Of course it would only be done, on the whole, to a limited extent; no teacher is likely to follow a standard from first up to sixth because first, second, and probably third are mostly taught by women teachers. It is only above that that the men are employed.

22592. And the great reason for a teacher teaching such a subject as science is so that he may co-ordinate all his subjects?—Undoubtedly.

22593. And that is an important thing in a school?—I think so.

Edinburgh.

Oct 26, 1897.

Mr. Andrew E. Innes.

Edinburgh—
Oct. 11, 1897.
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Mr. Andrew E.
Sewall

22504. Do you think the teaching of science has had an effect on the teaching of ordinary subjects—on the teacher's methods?—I should be inclined to say yes, distinctly, a favourable one, it has taught him to follow a purpose, and to adopt more thorough methods of oral instruction. He is less inclined to depend upon a text-book, and is thrown more in personal contact with his class.

22505. Is the inspector a member of the School Board?—No.

22506. He may be?—No, it is not officially permissible.

22507. Mr. MOLLOY.—May I inquire whether changes have taken place in the Scotch mode of inspecting schools corresponding to the changes in England, that is, beginning, say, in 1870 or 1871 with an individual examination, then going on to class examination, and nowadays simple inspection?—We have followed England so far, but as yet we have not got the length of simple inspection.

22508. What is your present mode?—We have an annual prescribed examination in a given month of the year, of which the school authorities have notice, and the chief distinction lately is that instead of examining the individual children for individual passes, we examine often in the elementary stages on the state of the class as a whole, by sample. Individual examination still subsists in cases where the children are presented for a labour certificate in standard three in some districts, and in standard five universally, which is the labour exemption standard.

22509. What is your opinion as regards individual examination in every subject with a view to the payment of results fees for instruction in that subject?—My opinion is very strong, from experience, that it was a great waste of time to examiners and teachers, and a great temptation to bad teaching, and in the hands of a proper examiner useless for the object it was aimed at. At the time of the introduction of that years ago by Robert Lowe, Lord Shaftesbury, it had an element of value, because it was thought there was a good deal of shiftness as regards attention to the children individually; but we have outgrown that now.

22510. At present you may examine by classes?—Yes, but no examiner can examine classes without examining more or less a number of individuals, and instead of the individuals being scheduled and each marked, we run up in our mind the impression derived from an examination of these individuals.

22511. Would it be correct to say, then, that your present method is a combination of class examination and inspection; you may take up the examination or be content with simple inspection?—We are not at liberty to be satisfied with simple inspection; an inspector's liberty is pretty wide, but we conduct sufficient examinations to be able to report on the different subjects taught in the report.

22512. In connection with the form of the report are specific subjects mentioned?—My own practice is, as a rule, to mention all the subjects in detail, and make some note up on them.

22513. That involves more or less of an examination?—Undoubtedly.

22514. So that it would not be a correct thing to say that it is simple inspection at present?—Not at all.

22515. Mr. HARRINGTON.—Can you give us any evidence as to the cost of the introduction of elementary science, such as physics and chemistry, into the schools?

Mr. MOLLOY.—I think I have it here—the cost per scholar in average education in 1895 was 1s. 9d., and in 1896 was about 2s. 8d.

22516. Mr. HARRINGTON.—Is the science teaching in the elementary schools followed up by a similar course in the secondary schools of the country?—I am not officially connected with the secondary schools and cannot speak definitely, but I know that in a good many secondary schools there are classes in chemistry, both theoretical and practical.

22517. I suppose you would be of opinion that before teaching such subjects as elementary science in secondary or technical schools it should be first introduced into the primary schools of the country?—I think what you might call the general scientific training I have been speaking of, dealing with phenomena and objects on a scientific basis and principles, would be a great help, but I should hardly be prepared to say it was an absolute *sine qua non* that work like that should be taken up in the elementary stage in order that it might be taught efficiently in higher schools.

22518. But technical institutes would be much more likely to succeed if suitable training were introduced into the elementary schools first?—I think there is little doubt of that, and I think they would be more likely to be fed by fit pupils.

22519. Mr. BUCHANAN.—There is a point about the nature of secondary schools which it might be well to make clear. Three secondary schools take children from an early age—in most cases from six and seven years of age?—Yes, from practically the infant stage.

22520. And they are not to any large extent, at all events, recruited by pupils from the elementary schools?—Oh, no, that is quite an exceptional arrangement.

22521. CHAIRMAN.—They run parallel?—Yes, the differentiation is to a great extent a social one.

22522. Mr. BUCHANAN.—So any teaching of science in the primary schools would not effect, to a great extent, the teaching in secondary schools?—No, except in leading to a sort of taste for the subject, and a possible increase in the number of pupils who may wish to go on; but there is no direct connection.

22523. Rev. Dr. WILSON.—Have you a college in Edinburgh for training teachers?—Oh, yes, there are three training colleges. They are denominational at present, one connected with the Church of Scotland, another with the Free Church, and another with the Episcopal Church.

22524. And do these training colleges train the teachers of all Scotland?—Of all Scotland.

22525. Is there no training college for the Board's teachers?—Oh, no, there is no distinction in that way.

22526. How is the expense of these training colleges provided, is it each denomination provides for them?—There is a very considerable Government grant given, which no doubt meets a great deal of the expense, then the different denominations contribute something more or less, and there are fees as far as I understand; but I should explain I have nothing to do officially with the training colleges. The inspector of training colleges would be the best authority on that point.

22527. Most Rev. Dr. WALSH.—Are you personally acquainted with the English system of training colleges, I mean as regards the principle on which the Government grants are paid?—Not more so than one gathers from the bluebooks generally.

22528. As you are in charge of the Leith district, perhaps you can tell me is there available for public use any statement of the total expenditure upon the various branches of manual work in the schools; we got very full information from the Edinburgh School Board yesterday?—I have brought a copy of a similar report of the work of the Leith School Board.

22529. In answer to Mr. Molloy you said, I think, that the system of inspection, that which is now in operation in Scotland, is a modification of the system that was previously in operation here?—That is so.

22530. At one time you had individual examination of the pupils, and the amount of the grant was dependent upon the result of the answering in each case?—Yes, of course that system, pure and simple, goes a long way back.

22531. But that system never was applied in the case of manual instruction, such as woodwork?—Oh,

no, that branch has been introduced since the Code was changed in that respect.

22629. And you consider that the change, the abandonment of that old and narrow form of the "corsets" system of payment, is a decided improvement?—Most decidedly.

22630. But it does not necessarily follow that the old system was a bad system to introduce at the time it was introduced. I mean that although we must all recognise that an improvement has been effected by the abandonment of that system recently, we must not assume that the introduction of it when it was introduced was a mistake?—Well, I am afraid I should feel bound to say that the old system was bad, it was bad educationally, but it had a special corrective influence.

22631. That, precisely, is the point on which I wished to elicit your view, when that system was introduced it had a useful influence?—At the time.

22632. You said, I think, that there was then a good deal of slippish work in the school, and that that was, to a large extent, corrected by that individual examination system?—That is my own impression.

22633. But quite consistently with that, you regard the new system as a better system, and you consider that you are now in a position to introduce it, because you have outgrown the necessity for maintaining the old system that did good work, and in a sense necessary work, in its day?—That is my feeling.

22634. You have a high opinion of the educational value of the kindergarten work done in the Leith schools?—I have.

22635. Have you ever heard anyone there advocating the abolition of kindergarten in these schools?—No, I have not.

22636. You never, I suppose, heard it stated that it would be far better for children not to be at school at all, than to be at a school conducted on kindergarten principles?—I never heard any such statement.

22637. Or that the children would get on far better at the upper standards if they had never been brought into contact with the kindergarten system?—No, I have had no statement of that sort made to me.

22638. Do you think such a state of things is conceivable in reference to any school in which kindergarten work is properly conducted?—Certainly not.

22639. If such a statement came under your notice as inspector, in reference to the kindergarten work in any school in your district, what would you consider it to be your duty to do in reference to that school, a school of which you heard that it was better for the children never to have been in a school at all, than to have been in that school where kindergarten work went on? I suppose you would consider it your duty to make a very special inspection as to the way in which the kindergarten work was done there?—I was going to say I should feel it my duty to watch that school very carefully.

22640. Just so. Now upon another point, speaking of classification, you said that in the Scotch schools, I mean, of course, those that are under the Education Department, and that you inspect,—arithmetic is practically the basis of classification?—To a great extent; it is an inherited practice.

22641. You don't consider it a very satisfactory arrangement?—No.

22642. I think in one of your reports you have suggested that intelligent reading would be a better basis of classification?—That is our old Scotch tradition, and I feel it would be a much safer gauge of relative progress on the part of the child.

22643. And a better guide as to the fitness of the pupil to go on with the work of a higher standard?—That is my own opinion very strongly.

22644. Do you think the reading of the pupils goes in the schools in your district?—It has very much improved of late years, one has spent a good deal of time in trying to get it improved, I think taking it over all, especially in the town schools, and

the better country schools, that the reading is really wonderfully good.

22645. In some places we have found that what is called reading consists simply in the child pronouncing one word after another?—I don't consider that reading at all.

22646. And if you had to examine and award results on such a proceeding as that, I suppose you would hardly feel yourself at liberty to pass such children as reading?—I should not pass the class in reading; unfortunately under the old system I speak of we had to mark the individual children, and it was very difficult indeed for an inspector to find a child who could simply get through the words without hesitation.

22647. But now that you have the advantage of being in a position to deal with a class, you would come to the conclusion that the class was not properly taught if the children read out the words in a dispirited manner from the book, not reading them so as to show that they had any real ideas of what the passage was about?—Most certainly.

22648. There is a certain amount of freedom of classification in your Scotch system, but I think you said that the teachers or managers do not avail themselves of it as much as they might?—I should like to see it taken more advantage of.

22649. Does it depend on the manager, or on the headmaster, whether this system should be taken advantage of or not?—To a very great extent. Of course, the managers are the authorities of the school, but they would be guided by the opinion of a good headmaster.

22650. You think then that the teachers in your schools are not sufficiently alive to the advantages of the system that is within their reach?—I believe so. I don't think they really have realised their freedom and see all the advantage of it. The influence of the parent is an element that comes in there; parents have an exceeding objection to their children being "put back," as it is called, and that is a trouble to a headmaster who is not very strong.

22651. So then, in Scotland, if the parents find out anything they don't like, they express their opinions freely?—They do very freely.

22652. Have you ever heard of parents here making objections to the manual or practical instruction?—No, I have never heard of it.

22653. Then may we infer that they do not object to it?—Yes. Of course the objections would have to be filtered to me; but it is probable that in conference with the authorities I should have heard of any.

22654. You have never heard of their objecting to this, although you have heard of their making objections on other matters?—I have.

22655. Now, as to the best way of introducing these practical branches of schoolwork that this Commission has to deal with, supposing that room has to be made for them, are there any subjects of the ordinary course that you think could either be dropped, or could have less time allotted to them? First let me ask you was there anything dropped when these subjects were introduced into your schools?—Nothing was dropped. Latterly there has been what we might call the dropping of the subject of history to some extent.

22656. How is history now dealt with in your schools?—In the Leith schools it is dealt with by means of the reading books.

22657. I believe in the Scotch Code it is provided there must be two sets of readers in every school in all standards?—Yes.

22658. And one of these must be a geographical or a historical reader?—Yes.

22659. Or a combination of both?—A combination of both.

22660. I saw a school geography of Chambers yesterday, "The Geography and History of Scotland"?—It is a common combination, but an unfortunate one, I think.

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22654. Do you think that is a sufficient provision for the teaching of geography and history in an elementary school?—Geography is practically universally taught as a class subject, independently of the readers.

22655. It is not prescribed as such in the Government Code, but the local school authority exercises its discretion in the choice of class subjects by choosing geography as a class subject, and then history is taught by means of the readers?—Yes, in these Leith schools.

22656. I should tell you that in Ireland our present arrangement is, that in all rural schools for boys, what is called agriculture is taught, and I have seen it suggested that in all town schools for boys, book-keeping should be taught—that is to make book-keeping compulsory for boys in the towns, as agriculture is for boys in the country. Now if you had your choice between having book-keeping taught every boy in Leith or having the benefits of some kind of educational manual work extended to him, which would you prefer?—The manual instruction.

22657. Without any hesitation?—Without any hesitation. Relative to these class subjects, your Grace, might I mention just the following figures, out of the 109 schools in my district, in the class subjects you may say they all practically take two class subjects; they may take more, but that is all that is necessary for gaining the grant.

22658. There are a certain number of subjects known in the Code as class subjects?—Known as class subjects, five.

22659. And the school must take two of these?—Practically, and they are at liberty to take more if they choose; but that is at their own risk as it were.

22660. They will not get the grant for more than two subjects?—They don't get the grant for anything more, except so far as the width of their curriculum affects the inspector's judgment.

22661. Mr. BRUCEWATER.—But the grant does not depend on the number of the subjects but the quality of the work?—It depends on the inspector's judgment of the quality of the class work. Out of the 109 schools all take English, 108 take geography, then the other class subjects all but of very much, only 26 take history, 47 take elementary science, and 13 take manual instruction as a class subject.

22662. Most Rev. Dr. WATSON.—We were told here in reference to the subject of English, that in the Edinburgh schools the use of grammars in the ordinary sense of the word is unknown, that is, the use of formal treatises on grammar. Have you gone so far as that in Leith?—Not quite; but the grammar instruction is certainly to a great extent, and not dependent upon a text-book in the hands of the children.

22663. It was mentioned to us yesterday that advantage is taken of the reading lesson each day to teach the children as much grammar as naturally arises?—Certainly, that is quite the common practice.

22664. And you find that this is a satisfactory way of teaching grammar?—It is the only satisfactory way of really teaching grammar to the child; I don't think the child could learn grammar from a text-book at all.

22665. That would seem then to be a very good way of saving time, when we have to deal with a system, such as ours in Ireland, where grammar is taught to a very large extent out of text-books?—I think that is a waste of educational time and effort.

22666. Mr. HAMILTON.—May I ask whether the language of the children has become less grammatical since the teaching of grammar in this way has been introduced?—No, it has very much improved, because it is more practical.

22667. Mr. SUTHERLAND.—I think you said there has been some improvement in the reading of recent years?—Decidedly.

22668. You connect that with the abolition of individual examination to some extent?—Most undoubtedly, I think it is a direct result of the abolition of individual marking in reading.

22669. Might it be said that the general improvement in school work of recent years is due to two causes, the first being the abolition of individual examination which permitted the introduction of other subjects such as hand and eye training and science?—That is one cause undoubtedly.

22670. Suppose we had individual examination continued, is there any probability that science and hand and eye work would have been taken up to the extent they are?—No, I should think it would have been an impossibility.

22671. So that as one step towards introducing science instruction and hand and eye instruction in any country it would, in your opinion, be desirable to get rid, at any rate to a great extent, of individual examination?—Yes, as a preliminary to that and on other grounds besides.

22672. But as a preliminary to the introduction of such subjects as these?—Undoubtedly.

22673. Then you are quite clear that the ordinary school work in the elementary subjects strictly speaking has not deteriorated in quality since the introduction of these extra subjects?—Perfectly clear, the evidence is all the other way.

22674. Suppose we put it the other way, do you think there is any reasonable probability that we would have got better reading and arithmetic if the whole time of the children were concentrated on these subjects?—I think not, certainly.

22675. There must be variety in the subjects of instruction in order to secure the full working powers of the child?—There must be, and that is apropos of the question Archbishop Walsh asked me, for I think a great deal of time was wasted in hammering away at work that was practically done as far as the child's intelligence was concerned.

22676. The introduction of these extra subjects, science and hand and eye work has had a good effect on the teaching?—It has.

22677. It has made teachers consider what was the nature of education in their schools instead of trying to get the children up to the passing level in the three elementary subjects?—That is my opinion.

22678. But the introduction of these subjects has been gradual, has it not; you spoke of hand and eye work introduced into Leith two years ago, you had two years experience of it as a complete school subject, it had been introduced tentatively before that?—No, except as kindergarten occupations in the infant schools, seven years before that.

22679. That was a very common experience all over Scotland that we had kindergarten work in the infant department, but we had no form of hand and eye training in all the rest of the schools?—It was so.

22680. Was not that connected with the fact that there was no individual examination of infants long before individual examination was dispensed with in the higher classes?—I think so; I have said so in the blue-book more than once.

22681. And for a long time our infant departments in general intelligence and work were easily ahead of all the other classes in the school?—Quite so.

22682. And we might hope for an improvement in the general intelligence of the work in the higher standards from the introduction of these subjects?—I think so, certainly.

22683. So long as the curriculum is not overloaded?—Of course.

22684. Which is a point to be determined by experience?—Yes.

22685. We had a witness yesterday who pointed out the great diversity of subjects in the highest classes of an elementary school of a somewhat advanced kind, and put that as a reason for being rather chary about introducing woodwork in these higher classes, I dream you are aware, Mr. Sengul, that woodwork is very common in secondary schools, the High school and the Merchant Company's school?—Yes. I knew it was taken up there, but to what extent I was not aware.

22688. We learned to-day that they have not only woodwork but metalwork. So that in these schools they find this side of education quite compatible with a very thorough training in what used to be the strictly classical branches of education?—That is quite what I should have expected.

22687. You speak of science being taught by the ordinary class teacher rather than a special expert, I suppose you think that it is not the amount of science that the teacher possesses that is important so much as the method by which he teaches it?—Certainly.

22688. And the amount of scientific knowledge he must possess cannot be very great if it is to be taught to those children who are under twelve in the ordinary schools?—It need not be great so long as it is sound as far as it goes.

22689. The method is more important than the extent of the knowledge?—Certainly, at that stage.

22690. So that it is quite possible for the ordinary class teacher to give a satisfactory instruction in science although he is not an expert?—Quite possible, we have proved it by experience.

22691. The introduction of hand and eye training in its various forms has been largely voluntary on the part of the teachers, that is to say, the teachers have taken to it and in individual cases themselves led the way?—Yes, they began so. Of course in Leith it was the result of a conference amongst the teachers and the School Board and myself, since then you may say it has been compulsory.

22692. You are Vice-President of the Sloyd Association of Scotland?—I am.

22693. You know that that Association did a good deal of work in stimulating interest among teachers in this particular form of instruction?—I think it did.

22694. And it also conducted classes for instructing teachers in such subjects as cardboard and clay modelling?—Yes.

22695. And that association is very largely composed of teachers?—It is largely.

22696. So that it shows that of their own accord teachers appreciate the value of this form of work?—A very fair deduction, I think.

22697. Would you consider it satisfactory to have infants and children of six or seven taught by males?—No, I think not.

22698. You think that in ordinary cases the instruction is much more suitably and effectively given by a female teacher?—Undoubtedly, at that age. I remember in Aberdeen one purely infant school that was taught by a gentleman of pretty mature years, but that was quite an exceptional experience.

22699. Does the Scotch Sloyd Association furnish a certificate after training in that branch?—They have been sitting at that.

22700. Mr. STEWART.—They issue a certificate of the work actually done in the class.

22701. Mr. MASON.—Does that certificate qualify the person to give instruction?—No, there is no certificate to qualify them.

22702. Rev. Dr. EVANS.—How many inspectors are there in Scotland?—Twenty-six.

22703. Do you happen to know whether their opinions on this subject of manual instruction are similar to yours?—Well, I should think there is some variety. I cannot really speak for them. It is not a subject that has come up very much among us. I know several of them whose opinions agree with my own.

22704. Monsignor MOLLAY.—In the programme for the physical science I find you have chemistry, physics, plant life, animal life, are all those subjects taught by the same teacher?—All.

22705. And you find there is no difficulty, if a teacher is properly prepared, in the same person teaching all these subjects?—No, I have not found that.

Mr. ROBERT BLAIR, M.A., B.Sc., Inspector of Schools under the Science and Art Department, examined.

Mr. Robert Blair, M.A.
B.Sc.

22706 CHAIRMAN.—You are an Inspector of Schools under the Science and Art Department?—That is so.

22707. Which is your district?—"North Scotland" is called, and it extends from Haddington in the south to Lerwick in the north, and on the other hand coming over from Aberdeen to Inverness, includes the Western Islands.

22708. Perhaps you will tell us to what extent woodwork is introduced in standards five and six in your district?—In Edinburgh we have about two-thirds of the schools taking woodwork; in Leith only one, in Dundee, five or six, in Aberdeen, three or four.

22709. What general observations can you make on the subject of woodwork?—I don't know that there is anything I can say, I am satisfied with the work as far as it goes in the south, but I am not yet satisfied with the work in the North.

22710. Do you call Aberdeen the north?—I mean north of the Tay. We have only Edinburgh and Leith in the south, and then Dundee and Aberdeen in the north.

22711. Therefore you are not satisfied in Dundee and Aberdeen?—No, although the work is improving. These schools have not been so long opened as the Edinburgh schools.

22712. Coming on to drawing, first of all as to the teacher's qualifications, what do you say about that?—I think it would be quite sufficient to have from the teachers a qualification in freehand and model drawing and geometrical drawing—as distinguished from what is called solid geometry—and blackboard.

22713. Do the teachers require a certificate in drawing?—It is not necessary to have a certificate, but certificates are given.

22714. Are most of the teachers who teach drawing certificated teachers?—No, you may take it that they are certificated teachers generally but not in drawing.

22715. Have you any considerable number of teachers who have obtained certificates in drawing, but who, owing to the circumstances of their schools, have for a number of years not been in a position to practice drawing?—Most of the teachers who have any qualifications whatever have had plenty of practice for the last five or six years, or as much as they cared to have.

22716. Therefore it would probably be useless to ask you the question whether you think a man who had obtained a certificate twenty years ago and never practised drawing, would be in a position to teach drawing properly?—I am afraid not, I think some who have certificates in the present year are not in a position to teach drawing properly.

22717. How did they manage to obtain a certificate if they are not competent?—The certificate is not a certificate of competency to teach, it is only of ability to draw.

22718. Then there is no system of ascertaining whether a teacher is capable of teaching drawing?—No test.

22719. What method would you suggest for assisting the teachers?—To assist teachers in getting good drawing in the schools is a question of beginning with the top, you must have an inspector who is interested in and sympathetic with the work, and he should pay occasional visits to the school without notice, he should find the teachers at their work, as most certainly he will do in most of the schools, but it would be useful for him then to take the teachers aside

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after the lesson and show them the faults that he had discovered in their drawing books or lesson, and generally give them assistance on how they should have taken up this or that.

22719. Is that the only method that you suggest. It has been suggested to us that in Ireland it would be possible, and, perhaps, advisable that centres should be formed which should be under a competent teacher, and that the teachers from the schools within a get-a-table area should come in once a week to receive a lesson in the method of teaching drawing. Do you think that would be a good plan?—I think it would, especially in the beginning of the subject, but you would have to insist on good training first in your training colleges.

22720. Supposing the teacher had not been in a training college?—To begin with, the teachers who are now coming out of the training colleges should be qualified to teach drawing.

22721. Do you think it should be made compulsory that every teacher who is now passing, or will in the future pass through a training college in Ireland, should be able to teach drawing as well as anything else?—If you are going to teach drawing in the schools.

22722. Do you think the system of a centre would be better than having a peripatetic instructor in drawing going round to the different schools, who should see what was going on, and advise the teacher?—Are you thinking of teaching children or teachers at the centres?

22723. I am thinking of a method of helping the teachers to qualify themselves. One suggestion is that there should be a centre in the county towns, or some town analogous, another is that a person thoroughly competent should be stationed in the centre and go round to different schools, and should be present when the drawing lesson was being given, and if there was anything wrong should interfere and show how it was to be done?—I think the best would be a combination of the two. You would have first to insist on the teacher at the centre being qualified, and the peripatetic teacher could point out the faults in any system and how to improve it.

22724. You have a sub-head under the title of the yearly examination—what does that mean?—We hold an examination at the end of each year in the schools which offer to teach drawing. Drawing is voluntary in the schools, and you may say that only the largest schools in Scotland have taken it up—the town schools. At the end of each year we hold an examination, and I think there is room for improvement in that examination. The papers that are received from the children on the day of the examination are partly marked by the inspectors, and partly sent to South Kensington. That system is good so long as it leaves to the inspector a fair control over the result. It would not do to give him full control, but I think he ought to have considerable control over the result, so that he can take local circumstances, and whether the school is improving or not, into account.

22725. With regard to the matter of inspectors; you are an inspector under the Science and Art Department; but do other inspectors who are not under the Science and Art Department—the ordinary inspectors of elementary education—interfere in the matter of drawing?—No, they don't.

22726. Rev. Dr. EVANS.—The inspectors—like our previous witness—do not inspect drawing at all?—That is so.

22727. Suppose we wanted to make drawing obligatory, do you think it would be possible to have it taught by a teacher who had not a certificate?—Oh, yes; taught by a teacher who had not a certificate, but the teacher, of course, would require to know something about his subject.

22728. We might, perhaps, teach writing, and the teacher of writing might not be very competent, but with the aid of copies, might manage to teach very well?—It would be necessary for that teacher to

write on the blackboard, and if he could not write fairly on the blackboard he would be a bad teacher of writing, so I should insist on all teachers being able to draw on the blackboard.

22729. It would be desirable, no doubt; but supposing you had not any certificated teacher in the school, and we were striving to make drawing obligatory, would it be possible to get it taught in a school of that kind?—Oh, yes. It is now taught in schools by teachers who have not certificates.

22730. And you judge of the teaching by the work done?—Yes.

22731. And on such work results are paid?—Yes.

22732. Mr. STEPHENS.—You say it would not do to give the inspector full control in deciding the grant—on what grounds?—The standard is as likely to drop as to rise from the inspector having full control, and you must have a guarantee that it won't drop, and the guarantee is the central system of marking.

22733. Is it necessary to send up all the papers? Would it not do to send up sample papers?—I think it would answer the same purpose if the sample was large enough.

22734. But you don't think it would be necessary to send up papers from each school?—I think I would have samples from every school. It is the tendency to drop I am afraid of.

22735. You don't think that a selection of the inspector's marking from the whole of the schools of his district would be a sufficient guarantee of the standard?—I don't think it would.

22736. Suppose the Department resorted to their power to say, "We wish you to send up the papers of such and such a school, with your markings"—to send for three or four from his department in the course of the year?—If the Department selected the three or four that would be enough.

22737. Captain SINCE.—You think the inspector should be a qualified judge of drawing?—I think so.

22738. Don't you think every inspector would be?—I think every inspector ought to be. I don't think I can say that every inspector is or would be.

22739. For that reason it would be desirable in some cases that the papers should be marked by a central authority where they have experts in drawing?—In addition to the inspector?—Yes.

22740. Mr. MORTON.—Could you state the number of elementary schools in Scotland that are connected with the Science and Art Department?—You mean schools taking drawing?

22741. No, altogether?—900 to 1,000 schools. Of these the most of them, of course, are simply taking drawing in connection with the Department.

22742. And then, in round numbers, or approximately, the total grant earned from the Science and Art Department?—£20,000 for drawing.

22743. How many of these schools under the Science and Art Department are carried on during the day time, as part of the ordinary school work, even approximately, and how many of them in the evening continuation schools?—Do you mean drawing only?

22744. No, I want to get at the total?—According to a new regulation of the Science and Art Department no day elementary school can be on their books, except for drawing or manual instruction.

22745. Then all the other subjects—heat, light, acoustics, and so on—must be carried on in evening continuation schools?—Or in technical schools or secondary schools in the day time.

22746. At what time would such elementary schools as take up light, heat, and electricity give the instruction?—would it be almost immediately after the day school?—If they give instruction in physics it is in the evening continuation school, but some are now giving instruction in physics without being on the books of the Science and Art Department. We are in a curious position at the present

moment. It is difficult to define where we are, owing to the new regulation of the Science and Art Department, that no pupil who is on the books of the Scotch Education Department for day attendance shall be also on their books for day attendance, and an effort is being made at the present moment to get the Science and Art Department to renege that rule—it affects a great many schools.

22747. The object is to prevent the duplication of payment!—Yes.

22748. Mr. HARRINGTON.—Can you tell us why it is not thought well to have drawing made a compulsory subject in the schools?—I think it was a question for the Scotch Education Department, and I suppose as the control was not in their own hands they did not care to have it compulsory, but I am speaking my own opinion.

22749. Would you be in favour of making it compulsory?—After a time. You would have to give notice, because the county schools would not be prepared at present to teach drawing.

22750. Rev. Dr. WALSH.—Woodwork you say is taken at a certain number of schools, is that in connection?—Yes, rapidly.

22751. You don't know of any schools that had woodwork and gave it up?—I know of one school, but that is exceptional, and it was given up because it was so badly taught.

22752. The tendency is for the numbers to increase and increase rapidly?—Yes.

22753. Most Rev. Dr. WALSH.—I suppose the reports on the teaching of that school were unfavourable?—I think that was it.

22754. In the examination in drawing, I understand, some of the papers are sent up to South Kensington to be marked?—Yes.

22755. All are not sent?—All are not sent; from a third to a half.

22756. The Inspector makes the selection?—He sends all the papers, but he marks from a third to half himself, and then these may be re-marked in South Kensington.

22757. Is the distinction between those that he marks finally and those that he does not mark finally, a distinction of standards, or what is it?—Kindly explain to us what occurs?—It comes to this: the Inspector, when he holds the examination in the school, marks the first standard and the second and sometimes the third standards, these papers, with the fourth, fifth, and sixth, are then sent up to South Kensington.

22758. Without the Inspector's having marked the papers of the fourth, fifth, or sixth standards?—Without his having marked the fourth, fifth, and sixth.

22759. Mr. HARRINGTON.—And as the work in the first standard on paper?—It is on slates, it would not be sent unless it was done on paper; it may be done on paper.

22760. Most Rev. Dr. WALSH.—The Inspector marks the first, the second, and the third standards, and does not mark the fourth, fifth, or sixth, but sends up all the exercises that are on paper, and this may include the first standard, or it may not?—It may.

22761. CHAIRMAN.—Does South Kensington look at them all?—Every paper is marked in South Kensington—the individual paper is marked.

22762. In addition to the Inspector's marking?—Sometimes if he is an Inspector whose reports are steady, they can overlook some of his markings, but if he was an inspector who is wasteful they would not overlook his markings.

22763. You mean that they would not take his markings as satisfactory, without some revision?—It comes to this, that they may or may not re-mark standards one, two, or three. If the Inspector is one, you may say, whose marks are usually steady, I think it would be all right—they would not re-mark all his standards.

22764. Most Rev. Dr. WALSH.—You mean they would accept his marking of hand, if he is an Inspector in whose judgment they have confidence?—Exactly.

22765. You said, I think, that the examination for certificates in drawing takes no cognizance of the candidate's power to teach drawing?—Practically so.

22766. Although the certificate is a certificate testifying to his capacity to teach?—His ability to draw.

22767. Is that what the certificate is supposed to certify to?—The certificate is supposed to signify the ability to draw, I believe.

22768. Surely it pretends to attest his ability to teach drawing?—It is a teacher's certificate, and it ought to be of ability to teach. It is called "The Elementary Drawing Certificate."

22769. That is my point: it is a teacher's certificate, so it must be presumed to attest his fitness to teach?—Yes.

22770. And yet his fitness to teach is not tested in any way at the examination upon which this certificate is given?—Except that marks may be added for the teacher's drawing on the blackboard, but they may not offer themselves for examination in that.

22771. So it comes to this, that under the Science and Art Department a person may get a teacher's certificate in drawing without his ever having been examined as to his capacity to teach?—He may.

22772. You surely don't consider that a satisfactory arrangement?—I do not.

22773. Is it the system in Ireland, I am bound to say, as well as here, but I hope that we in Ireland shall soon be rid of it. Now, which would you consider the better test of a person's fitness to teach drawing—examining some piece of drawing that had been done by him, or ascertaining the nature of his teaching, judging it, if you will, by the results, taking them on a large scale, in his school?—I should say the second was a better plan.

22774. Suppose you found a teacher uniformly or almost uniformly successful, so that all, or nearly all, the pupils in his school showed a good capacity for drawing when examined by the Inspector, would you not consider that a much better evidence of the man's fitness to teach drawing than anything you could arrive at by such an examination as is now held?—Certainly.

22775. And would not the same principle seem to apply to other subjects as well?—Yes.

22776. Is there not in your Training Colleges a professor of method, whose business it is to see that the students learn how to teach, and learn good sound methods of teaching?—I believe so.

22777. But the operation of that section of the Training College work does not extend to drawing?—No, and I think that even when the students go from the college into the practicing schools, a drawing lesson is the last thing they would think of practicing.

22778. Of course you regard that also as a very serious defect?—I do.

22779. Perhaps it comes to some extent from the divided authority between the Science and Art Department and the Education Department?—I think it rather depends on the system that exists in the Training Colleges.

22780. Are not the Training Colleges directly under the control of the Education Department?—I don't think I could say that, they are denominational colleges here.

22781. No doubt; but they are conducted under the rules of the Education Department?—Yes, and assisted by the Education Department.

22782. That is, they, as Training Colleges, are administered under the provisions of the Code of the Education Department, whilst the Science and Art Department has no voice in the matter?—Not as a whole, we Inspectors go into the Training Colleges and inspect what is going on.

22783. There is a divided responsibility to that extent?—Yes.

22784. And one of the results of it, surely a very inconvenient one, is that there is a professor of method who examines the capacity of the students to teach the other subjects, but does not pay any heed

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Mr. Robert
Sturges & Co.
Solicitors.

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Mr Robert
Hunt, R. S.,
J. R.

to their capacity to teach drawing?—It is difficult to say whether the instructor of method would be capable of teaching them.

22763. He is an official of the Education Department?—Yes, i.e., he is an official of the Training College, working under the Education Department.

22764. The Education Department looks after the teaching of method in those branches of work with which it has to do, and does not look after the teaching of method in the case of drawing, which is altogether outside its province?—So far as I understand, I thought you would like to see what could be done by a teacher who is not working under our

rules (*proving* *conspicuous*). He is enthusiastic, but is not working for the great. This is a secondary school, but these children are about the age of primary school children.

22765. We were told that primary and secondary schools here run on somewhat parallel lines, the distinction being rather social than educational?—I only know one really secondary school, which really begins at secondary work.

22766. Is it, then, that the secondary schools here are really primary schools for children of a higher social class?—And they go further than the Board schools

Miss Guthrie
Wright.

MISS GUTHRIE WRIGHT, Hon. Secretary, Edinburgh School of Domestic Economy, examined.

22769. CHAIRMAN.—Will you tell the Commissioners what are the arrangements for teaching cookery to teachers in the Edinburgh School of Domestic Economy, of which I think you are the Honorary Secretary?—I can. Our arrangements are on two lines, one for teachers of all branches, from the cheapest cookery up to high class civil cookery, and the other is for artisans and plain cookery. One extends to a minimum of eight months, and the other to a minimum of six months, and the details of what we give in the minimum training is stated on page 4 of our prospectus, that is the minimum, but we go far beyond that.

22770. To what class, in your opinion, should cookery be taught in public schools, and by whom, the class teacher or a special teacher?—For some time my school taught in the Edinburgh Board schools and in Leith. The Boards then formed their own staff of cookery teachers. And we then formed the opinion, which we have not seen since any ground to go back from, that very young children do not benefit adequately by it, they forget it before they turn it to any purpose, and therefore it should be thrown as far on as possible in the elementary school teaching. The Board have not control over the children after they leave school, but it would have been better even after the ordinary school years; but the arrangement then made was one which we thought desirable and a good one, namely, that the children of the 5th, 6th, and 7th Standards should have cookery, and the children over twelve years of age, many of the children of the 4th Standard being in our opinion, and in that of the Edinburgh School Board, at that time too young for it.

22771. As regards the teachers, do you prefer a class teacher or a special teacher in connection with a primary school?—If the class teacher could give the time for being fully qualified, and could do full justice to that subject, then I think there is a considerable advantage in the same teacher conducting all the classes throughout her work; but I think from what we have gathered, generally these teachers are content with very much too little training, those who are already teachers in other departments, and with the large number of subjects which they have to impress upon the children, they cannot give such adequate attention to cookery as a special teacher could. And under these circumstances, I should say it is a decided advantage to have a special teacher.

22772. Do you know, as a matter of fact, whether in Edinburgh and Leith they generally have special teachers?—I think, entirely.

22773. What is your opinion as to the possibility of wider training in housewifery as distinguished from cookery?—One school is waiting to see how that subject is worked out in London; there are some centres there where it is being tried. I take for granted it is housewifery for elementary school children you mean, because we have adequate arrangements for young ladies, you will see at page 3, a very good wrapping for housewife's diploma for young ladies, which embraces the subject pretty exhaustively. But for children in elementary schools it seems to

have been accompanied by a good many difficulties, and from all we have heard yet of the experiment, it seems to me, so far as we have talked over it, that the expense is probably in excess of the benefit to be gained from it. It is very difficult to give anything equivalent to a house training in any place that is not a house, it is more or less make-believe. We very strongly go in for the teaching of cookery and laundry work as living special subjects which can be well taught to children, because the knowledge can be kept in their minds until they bring it into operation. It is of value so far as it goes; but working the practical details of a house always seems to me accompanied by many difficulties, and we are rather in a waiting attitude towards that.

22774. Mr. HARRINGTON.—Does the presence of the special teacher for cookery cause any friction in the schools with the ordinary teacher?—Friction in the sense of its being very difficult for the cookery classes to be given full justice to, for this reason, that whereas in England the boys' and girls' schools are separated, and the girls' classes can be adjusted so as to allow of cookery getting its full share of attention; in Scotland our experience was at the time we taught—I am not able to speak of the present arrangements—but our experience was that cookery rather interfered with the other subjects, and drafting children out of classes in small numbers interfered with the class arrangements.

22775. The reason I asked the question is, that we found in Ireland, where the schools are not mixed, except in the infant branches, that the teacher of the ordinary school rather resents the time of the children being taken up with cookery when a special teacher is brought in?—That was our experience, or rather it was on account of the inconvenience to the school or classes.

22776. To what extent is cookery taught in rural schools in Scotland?—It is taught in a good many of them; I am not able to give you statistics as to the general teaching throughout Scotland, my part has to do with the training of teachers.

22777. Can you say whether the teaching given in the rural schools has had an appreciable effect on the people in their homes afterwards?—That I have no knowledge of. I have more knowledge of the public classes connected with our school throughout the country, I have only hearsay information of anything else; I don't think it is sufficiently reliable to give you.

22778. Is laundry work much taught in the schools in this district?—It is taught in Edinburgh and I think in Glasgow. I don't know of its being taught in any other elementary schools.

22779. Do you consider it a suitable subject for an elementary school?—Quite suitable.

22780. Has it educational advantages?—Yes, it is a good manual art, and it has very direct advantages for the girls in their own homes, and helps them to pass on to a money-making employment.

22801. I notice one of your subjects is "house book-keeping," is that taught to the girls in elementary schools?—No, that is part of the training we give to

those who go in for the housewifery diploma; we at first called it book-keeping and it rather frightened them, all we teach is what young ladies have to keep in their own houses, the house-book.

22802. Rev. Dr. WILSON.—I suppose you turn your attention mainly to the written and plain cookery?—That is the part we have always given the greatest importance to in our school, as being the most important nationally.

22803. You prefer that the ordinary teacher of the school should teach if she is at all competent to do so?—It is so important "if" because I have not yet known of any teachers in the schools being fully trained, and the training we at one time proposed to give as a minimum in our training school there was so much pressure put upon the teachers in training as other ways that they tried to surmount it on us.

22804. So, up to this date an expert is a necessity?—I think so.

22805. We saw in London a case where an actress's house was taken, so many rooms, and every department connected with the house was taught, have you anything of that sort here?—We have not, one of our committees just returned yesterday from a visit to the London centres and specially saw those arrangements with a view to a consideration of the subject.

22806. You regard cookery and laundry as the essentials of housewifery?—Yes, and as practicable to teach in elementary schools.

22807. CHAIRMAN.—I think you have some observations you would like to make about kindergarten?—No. The only observation I would make is that there are a considerable variety of ways in which cookery, for example, is taught to children; our different schools have worked things out in different ways, our school, and I, individually, have always had a very strong feeling that for cookery and laundry also the classes should be small; the teacher cannot do justice to a large class at a time, and not more than two children should work together at one dish.

22808. But how many in a class?—About fourteen is a very good number, eighteen or twenty-four has been attempted, but we have rather declined the work that take it under such circumstances—the teacher cannot do justice to that number.

22809. Most Rev. Dr. WALSH.—Are there more

children going in for the cookery certificate now than went in for it formerly?—I believe so, but I have not so much detailed knowledge of what takes place in the Board schools. All our schools are doing their best to work out the best methods. Our own school is at present trying to make some alteration and developments.

22810. Has any change been recently made in the Education Code that would act adversely to the teaching of cookery?—I don't think so. The last arrangements issued as to the training of teachers by our Scotch Code were not so specific; they were rather left vague to allow the schools to follow their own way in matters. But I think they will be more specific shortly, and our school has made a representation to the Scotch Education Department, both our Edinburgh school and the Glasgow school. Sir Henry Cockburn authorized me to mention this to day, with a view to see if the School Board would afford us the necessary facilities for the training of teachers in teaching school classes of children, and Sir Henry has written both to the Edinburgh and Glasgow School Boards upon this subject. We are rather at a disadvantage in Scotland as compared with England in the training of teachers in teaching, because in England so many schools are voluntary schools, and many of those work with the schools of cookery. In Scotland the system is almost entirely a Board school system, and those have their own staffs of teachers.

22811. You don't work here on the centre system—having centres for such subjects as cookery set up for a number of schools in a neighbourhood—as they do in England?—Yes; in England they work more on the centre system.

22812. Mr. HARRINGTON.—Are there introduced into the reading books in the elementary schools here, little simple lessons on the laws of health, and the evils of strong drink, and so forth?—That I am not aware of.

22813. Would you like to see that in the reading lessons?—Yes; I think even matters of cookery could be introduced into reading lessons, and in domestic work I think cookery work might be advantageously used. I think Sir Thomas Acland, in England, at one time made an effort of that kind, and it worked advantageously, so as not to have so much writing in the cookery class, and yet to utilize the instruction from one class to the other.

Principal GRANT GUTHRIE, Heriot Watt College, Edinburgh, examined.

22814. CHAIRMAN.—I believe you are the Principal of the Heriot Watt College in Edinburgh?—Yes, my lord.

22815. You have paid considerable attention to drawing and manual training in primary schools, as preparatory to technical instruction?—I think that is a preparation for technical instruction, the first essential, and really the only essential, is a sound elementary education, putting the matter quite generally, drawing I regard as an essential part of an elementary education, manual instruction should find its place in elementary education on grounds quite distinct from those of its necessity as a preparation for technical work. A most important aspect of elementary education, from the point of view of such instruction as is given under my direction, that is instruction to adults who are engaged in technical operations, and require to prosecute their education, is that they should have a thorough knowledge of arithmetic, a practical knowledge of composition, and that they should be able to use their drawing. The tendency in teaching drawing is to teach it as a subject, which is of importance, simply for its own purposes. Now, if that be the only aspect in which a student regards it, he does not make use of it as a tool. In technical education, drawing is of advantage principally as a tool, and therefore the more in ordinary school work it can be introduced into every lesson—there are very few

lessons it cannot aid—and the more it is introduced as an acquisition of use, and not merely for the purpose of ornament, the better it will be for the pupil as a preparation for his technical instruction afterwards. When I speak on the application of composition, and so on, the difficulty that I find is that an adult, who, no doubt, was quite able to write an essay upon a cat, or a holiday, or bonfire, in the ordinary way of a school exercise, fails when you put him down to describe some object which is placed before him, suppose it were merely a chair, or again if you ask him to give an intelligible description of that object, or of an ink bottle, anything in front of him, he does not know where to begin. Similarly he is quite at a loss when asked to describe perhaps in words, apart from writing, a simple action performed by him. That is more a question of the method of teaching, and what is desirable in that, is rather that the attention of teachers be directed to that aspect of composition, because, after all, that is the final test in life of composition for these pupils.

22816. Do you think that in arithmetic there is too much evidence of a tendency to lose sight of ends, in figures?—In testing a pupil, even an adult, who has been away from school a year or two, if one puts an arithmetical question on a blackboard, or in a paper in the ordinary form in which it appears in the text-book, say multiply 6 inches by 37, he will work it out all

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Wm. Guthrie
Wright.

Principal
Grant Guthrie.

Edinburgh.
Oct. 21, 1899.
Principal
Grant-Ogilvie.

right, but if you put to the same adult the question in this form: "Each flooring board in this room is 6 inches broad, there are 37 flooring boards, what is the breadth of the floor?" he is in a great difficulty. Adult pupils show they have not regarded arithmetic as connected with an end, they regard it as they regard drawing and school exercises.

22817. A sort of abstraction?—Yes; I would urge that arithmetic should be worked in on every possible occasion. In the various lessons a child may have, and that questions should be set on measurements taken actually before the pupil. For instance geography; I think I am right in saying it would be an exceptional thing to find a teacher set an arithmetical question in the course of a lesson in geography, yet there would be much advantage in such an exercise as connecting the distances between towns with the times of travelling between them.

22818. Do the teachers in Scotland ever ask, as is done in Ireland, the length of rivers and heights of mountains?—I have no doubt they do, but that is an effort of memory.

22819. Most Rev. Dr. WATSON.—They might ask: "How long would you take travelling down a river going at so many miles an hour?"—Yes, an intelligent teacher would do that, and unless the subject is applied in that way throughout the whole of the child's education, he can never have a grasp of the work.

22820. CHAIRMAN.—Have you given attention to the subject of woodwork in primary schools?—But little; not very much.

22821. What do you think about it?—I think woodwork is a very excellent thing in its proper place, my own impression is that there is no doubt about its advantage in those schools in which it was first introduced in Britain—that in secondary schools—those schools where the children continue beyond fourteen years of age, and where it is necessary to keep their manual training going on, so that they may not be behindhand in entering upon an apprenticeship subsequently. At the same time I doubt whether carpentry is the best form of manual training for an elementary school. I am of opinion that there are simpler operations that would be of advantage, but I must say that my experience in that matter is not sufficient to enable me to attach any particular importance to my view.

22822. Rev. Mr. EVANS.—Apart from the benefit of drawing, as applied to art and industry, I suppose you would be of opinion that it is profitable to the individual student himself?—Undoubtedly, I consider it is an essential part of the training of a pupil in a primary school, I think manual training, including drawing and other occupations of a simple kind, are essential parts of training during the elementary stages of instruction.

22823. Drawing, I suppose, teaches the pupils observation?—Certainly.

22824. And I suppose writing is a manual training?—Yes.

22825. And drawing aids in training the hand as well as writing?—Yes.

22826. So that the pupil himself is benefited apart from any application that may be made of it to particular arts; is benefited by having been taught drawing?—Very much so.

22827. Do you think that the Government Inspectors, taking the Inspectors in the average, are competent judges of drawing?—Yes.

22828. And might be depended upon to inspect drawing?—From the point of view that I regard drawing, that is as an essential portion of the general elementary education, I consider that a Government inspector is amply qualified to judge of the efficiency of the teaching towards that end. I would not ask a Government inspector to judge of drawing where one was trusting to the teaching as an art education.

22829. Do you think a Government inspector a competent judge of needlework?—I don't know; he may be.

22830. Well, it is just taking that as an illustration, so that we might be able to see whether in

spectors generally, if they can judge needlework properly, might not also judge drawing properly?—I don't attach so much importance to the actual finished accuracy of the result in the drawing exercises as I do to the method in which the work is set about, and I think that any gentleman who is selected for the position of inspector of schools is necessarily a sufficiently qualified judge of the educational result which has been produced by the drawing. The average inspector of schools is able to tell when a picture is out of drawing. I think he would be much more ready to judge of simpler points raised in elementary drawing.

22831. Mr. HARRINGTON.—I suppose a considerable number of boys from elementary schools have got into business offices?—Yes; very large numbers.

22832. Do you think the system of arithmetic as taught is sufficiently practical to be of much value to them when they go to business offices?—The system of arithmetic is all right itself, but they are not accustomed to apply it, but, for those going into offices, there is not so much difficulty, because the questions that occur are generally of the type of questions that are given in the arithmetic books.

22833. Don't you think a great deal could be done by the introduction of the teaching of the decimal system into schools?—Very much more. I believe that boys who go to business with a good knowledge of the decimal system, become much more valuable as clerks afterwards. As a matter of fact, the first thing we teach every pupil who comes up for technical instruction is decimal fractions, but we don't call them decimal fractions. We are careful to have them on certain units of the metric system, and take measurements before the pupils; or, if these are agricultural students, the first thing we teach them is the Chain, which is the only British decimal measure, as a concrete illustration. Personally I hold very strongly the opinion that the teaching of calculation by decimals is of the greatest importance.

22834. Do you think it is sufficiently taught in your primary schools at present?—No, I do not, otherwise we should not have to begin by teaching it.

22835. So that boys in Scotland are at a great disadvantage as compared with foreign boys?—Yes; there is a good deal of time lost.

22836. In learning arithmetic owing to our complicated system?—Yes.

22837. Rev. Dr. WATSON.—Yours is a technical school?—The main part of the institution is. It has evening classes for adults who are engaged in business or manufactures.

22838. Have you a day school as well?—We have day classes, but they are for pupils who have passed through a secondary school—sixteen to twenty years of age.

22839. Do many attend that evening school?—3,700.

22840. At what time?—The average period would be two evenings a week, so that there would be about 1,500 in attendance each evening.

22841. You have accommodation for those numbers?—Yes.

22842. What will they now be chiefly occupied at?—The occupations vary just as much as the occupations in the town do. In the first place, there are all the ordinary science subjects, then the technical subjects in relation to the trades of greatest importance in Edinburgh, and then economical subjects, and modern languages and art.

22843. Most Rev. Dr. WATSON.—In a paper of yours that has come before our Commission, you make an important distinction between the place that drawing should hold in a system of general primary education and the place it should hold in a course of preparation for technical instruction?—Yes.

22844. You consider that the question can be considered under both those aspects—first, in so far as drawing is a preparation for the work of a technical school; and, secondly, even apart from any reference

to the work of a technical school?—Yes; I consider that a case for a full and adequate training in drawing could be made out on its importance as a part of general education alone; but I consider, further, that even if that were not the case, one could show sufficient reason for its being included in school work as a part of the preparation for technical training.

22845. Does the same not apply to manual instruction?—No, I do not think that of manual instruction. I have an impression which leads me to consider manual instruction in primary schools as an essential part of the preparation for technical instruction. I consider, however, that it is an essential part of elementary education. That is to say, in the technical instruction of the adult, we do not build upon or make use of the manual training which has been given during the primary school years.

22846. Precisely so, that was what I wished you to explain. I was afraid your first answer might be misunderstood. You regard manual instruction as of importance in the primary school, quite apart from all consideration of its relation to technical education?—Yes.

22847. You are quite clear upon that?—Quite clear.

22848. You would, therefore, consider it a fatal mistake to say, "Let us have none of this work in the primary school, let us reserve everything of that kind for those technical schools that the pupils may afterwards go to?"—I should, but, may I add that, the distinction I have drawn leads to an important qualification of the nature of the work which is to be given as manual instruction.

22849. I intend to come to that afterwards, but, first taking manual instruction in itself, you consider it would be a fatal mistake to separate it from a complete system—or a system professing to be complete—in primary education, and to reserve it altogether for a technical school?—Yes.

22850. Now, as to the kind of manual instruction to be introduced into the primary school, you consider it should be something that would exercise the children in accuracy of observation?—Yes.

22851. And you also consider that it should be such as would exercise their constructive faculties?—Yes.

22852. Of course there might be an immense variety of occupations that would answer those conditions, can you give us a few examples of the kind you think best fitting for the purpose?—I think I might put it otherwise. I rather hesitate to accept the almost universal ruling upon carpentry as the one subject which is to form manual training, because I think that in carpentry there is a great deal of time spent in operations which are not necessarily educative. I prefer the simpler studies—the fitting of wires and cardboard work. In fact, you may take generally the Sloyd occupations, other than carpentry. I think carpentry occupies a needlessly long time for the educative results it produces.

22853. But you consider those exercises in cardboard folding and cutting, and folding pieces of paper, according to a prescribed plan, or according to directions given by the teacher, and measuring and

cutting bits of wire, and twisting them into certain shapes, all have a useful educative purpose?—Very great.

22854. You would not consider them of more educational advantage than the Sloyd exercises in wood?—No; but they take up less time, and they are of equal educational value. For the same amount of time, I should say that they are of more.

22855. You are probably aware of the system that has been worked out so fully in places like Birmingham, where in the earlier stages the children occupy themselves with these elementary exercises—folding and cutting pieces of cardboard, and twisting pieces of wire—as a preparation for the Sloyd exercises in the fifth and sixth standards?—I have not seen the arrangement, but I understand it.

22856. Do you not think that no matter how good the arrangement might be, the time would come when the child would get tired of dealing with little bits of paper and wire?—Yes, I quite approve of that, but I don't think it is in the near future that we are to get the work carried out so thoroughly generally as it is in Birmingham.

22857. But you think that the Birmingham plan represents a desirable ideal?—Undoubtedly, then as to carpentry, I rather distinguish it from Sloyd, I don't wish to be misunderstood on that point.

22858. Obviously, carpentry and Sloyd are essentially different things, and aim at two essentially different ends?—Yes, woodwork on the Sloyd system is different from carpentry, I deprecate carpentry training as distinct from Sloyd exercises in wood.

22859. CHAIRMAN.—You made one remark with regard to the application and the knowledge of arithmetic that a child receives in Scotland, you said that although he could multiply six inches by fifty-seven he could not apply it when he came to measure a floor, do you think it could be said of any children who had passed through the schools you know of in Scotland as I have heard it said in a town near where I live, by a man of business, with reference to arithmetic, that it was almost impossible to get an apprentice who could do a sum correctly?—I don't mean to say that no pupil could do that, and I don't suppose your friend meant it literally, perhaps I ought to guard my own remark a little, there is a very large number of artisans who have gone through school training and undoubtedly have done it satisfactorily, who yet, from want of habit of applying their arithmetic, lose their arithmetical knowledge very quickly. Of those who retain it one makes no remark, for one expects that it will be retained; yet it is undesirable that there is the need for refreshing arithmetical knowledge, indeed it is not only a matter of refreshing, but of rendering the knowledge applicable to practice.

22860. Most Rev. Dr. WATSON.—I dare say there are people who are able to perform the abstract sum of subtracting £1 10s. and 11½d. from £5, quite correctly on paper, and yet would blunder in giving you the change of £1 10s. and 11½d. out of a £5 note?—Yes, children regard the one question as arithmetical and the other as a problem, and say—"We cannot do problems."

Miss FLORA C. STEVENSON, Member of the Edinburgh School Board examined.

22861. CHAIRMAN.—You are a member of the Edinburgh School Board?—I am.

22862. And you have had great experience in subjects connected with education?—I have been a member of the Board for twenty-four years.

22863. With regard to cookery what are the conditions on which grants for this subject are given by the Scotch Education Department in day schools?—The conditions are that domestic economy as a theoretical subject is taught to the girls, that they shall receive forty hours of instruction in cookery, twenty of which must be spent in actual cooking with their

own hands, and that no class shall contain more than twenty-four girls for this practical work, and a grant of 4s. is given for each girl in those classes. A grant of 2s. is given for classes of twelve, where there are only twelve in the same class, and they must have received altogether twenty-four hours of instruction.

22864. You think forty lessons are as little as are of any use?—I think so, but I also am of opinion that twelve hours of practical training given to twelve girls is of more value than twenty hours given to twenty-four girls under our teacher.

22865. Because they get more individual attention?

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—They get much more individual attention, and I think altogether it is more valuable when the classes are small.

22866 The other day when we were making our tour in Ireland, we visited, not a primary school, but a technical school in Galway. We did not see anything going on, but we saw the masterpieces in cookery, and asked her opinion on the subject; and she told us that the number of lessons that were comprised in the course were, I think, only twenty, and she thought that that was a great deal too little, because the pupils or persons who were attending were only just beginning to understand the elements of the thing. To teach the master properly she ought to be able to give sixty lessons!—I think forty lessons, of course, is very much better, and the ideal would be that they should get their forty hours of instruction, and for twenty of those they should cook with their own hands, but the number in each class under one teacher should be limited to fourteen at the outside. We, in our classes, teach twenty-four at a time, and I don't think it is at all satisfactory, they get into little slow ways.

22867 You think on the one hand twenty lessons would be too little and sixty lessons would be more than enough?—Rather more, I think forty would be sufficient, if the practical classes were limited in number to fourteen at the outside.

22868 Now, as regards the age of the scholars?—The Scottish Educational Code gives grants for girls from the fourth standard upwards; my opinion is that that is rather too early to begin cookery teaching. I don't think they should begin until they are sixteen years of age, and it should as far as possible be given to a girl in the last year of her school attendance. Before the Department recognised cookery at all as a subject of instruction the Edinburgh School Board gave cookery teaching to the older girls, we had no grants for it, and no conditions connected with the teaching, and I am of opinion that we did very wisely as much good as we do now with our elaborate kitchens and apparatus and the restrictions of the Education Department. We have certainly more children receiving instruction. Last year we taught between 2,500 and 3,000 girls that we got the grant for, but still I am of opinion that a great deal of the money which is given in cookery grants is wasted because of the very youthful age of the children who get the teaching, the children like it excessively, it is a great variety from their work, but I believe a good deal of the good of the teaching is lost.

22869 Do you think that any considerable number of the girls who have been taught cookery in the primary schools for a sufficient number of hours could go home, and being provided with materials, could cook a dinner at home without any superintendence?—I think the older girls could, the girls of thirteen or fourteen, but the average age of the girls in our schools is the fifth standard is between eleven and twelve, I think that is too young, I don't think they could; I have known cases of girls who having got their preliminary instruction in the Board schools in cookery have gone and followed it up as their employment and made very good cooks indeed.

22870 I suppose in all cases a girl who had received her instruction only in school, would require to learn a great many things beyond what she had learned in school before she became a cook?—Oh, certainly, a great deal more.

22871 What is the relation between theoretical and practical instruction in cookery?—All the girls who are to receive cookery instruction receive what are called demonstration lessons, the number in class is limited by the accommodation of the classroom, the possibility of hearing the teacher and of seeing what she does, the number attending these classes are not limited; but the unfortunate in our teaching is that they get all their demonstration lessons at one time and the practical lessons follow afterwards, in many cases, very many weeks after the girl has received the theoretical instruction she re-

ceives the practical instruction. We can only teach twenty-four at the outside in the practice classes.

22872 To carry the thing out in a perfect way, I suppose you should limit your theoretical class to the number of the practical class, and have the practical class follow immediately on the theoretical?—Or have a sufficient number of teachers in the practical classroom to teach half as many as have received the demonstration lesson, the ideal thing would be to have the practical lessons follow on the demonstration, but that would be very expensive.

22873 Unless you had to deal with a small number?—Yes.

22874 Suppose you were to establish cookery in a rural school, it would be easier to carry that out than in a large town school?—Very much easier, in a small school it would be quite practicable to give the practical lessons after the demonstration lessons. My view is that this instruction ought to be given to children after they had passed their fifth standard, and should be confined to evening schools or continuation schools.

22875 I think you have already told us that cookery was taught in the Edinburgh schools before it was recognised as a school subject by the Department, and was only given to the older girls. Can you tell us what were the grants first given under the Code of 1884?—It was given as a grant for a class subject; there was no grant given specially for practical work. Cookery was given as domestic economy, which was taught as a specific subject before it was recognised as a grant-earning subject. A girl was obliged to take domestic economy as one of those specific subjects she was allowed to take. If a girl took specific subjects she was obliged to take domestic economy as one of them, and it was then paid on the same basis as a specific subject; I forget what the amount was prior to 1884—I think it was 4s. we got for the two subjects.

22876 Can you tell me what number of scholars were taught in the day schools in cookery last year?—I think we had last year altogether 2,538; the average attendance is about 27,000 at our schools, and half of those would be girls.

22877 As regards sewing, has instruction in this subject always been a primary condition of any grant being given to a school?—Yes, it has always been a primary condition on which schools are recognised as grant-earning, that sewing should be taught to the girls.

22878 There is now a code of regulations on the subject?—Yes, called the third schedule, which minutely details what is to be expected from the girls in these subjects from the infant department up to ex-6th.

22879 What is the number of hours that should be given to sewing?—I should like each girl to have four hours a week, certainly not less than three, in our schools we are only able to give them three.

22880 You think three is not enough?—It is better if we could have four, but I may say, and this remark applies to all the domestic subjects in our schools—our schools are mixed schools—the boys and girls, as a rule, are taught together, and of course each class of girls that is taken away for sewing or cookery disorganises the class to a certain extent.

22881 The number of hours in the ordinary schools in Ireland given to sewing is five hours, that is outside what they call the alternative scheme, which is not much taken up, which was ten hours, and it has been suggested to us it would be a very good thing to reduce the number to three hours, in order to give time for other subjects, such as cookery?—I think if they get the full hours so that to time is lost, three hours ought to do, of course four hours is better, but we have managed to produce very good results with three hours.

22882 Are you of opinion that more time should be given to sewing and darning?—Much more time. The difficulty which arises under the regulations with

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regard to our sewing instruction, is that those regulations apply equally to every class of school under the Board, we have schools where the condition of the children is quite different from those in others. In one school in particular we had a very able and accomplished lady manager, who took a very great interest in the children, and a very considerable amount of the sewing lesson was taken up in getting these children actually to mend clothes, to mend their pinafores and the clothes they had on. It is not so much the requirements as to the efficiency of the sewing, but the mode of examination that causes the evil. The system of examination now is, that each child in each standard is required to do, in the presence of the inspector, a small specimen of work according to the standard, in the infant's a little bit of knitting and hemming and so on, and the teachers are under a very great temptation to spend the time in making the children expert in doing these little specimens rather than making them do work which is of more practical value in the way of making garments. We do accomplish both in most of our schools, but there are some schools where the condition of the children makes it extremely difficult to bring them up to the standard, and I think it would be very desirable that there should be more elasticity in the requirements of the needlework schedule.

22883 Do you find an unwillingness on the part of the parents to allow the children to bring articles to school to be darned?—Considerable difficulty, they don't like to do it, we tried to encourage them, and before we had this third schedule, we, in some of the schools, managed by offering little rewards and so on to get the children to bring such articles, but of course there are great difficulties with regard to that, you cannot be certain as to the houses they come out of, and there is the danger of infection.

22884 We were inquiring into this subject as well as visiting schools in Londonderry last week, and we were told that some of the clothes worn by the younger children in the schools were the work of their elder sisters, but the elder sisters objected to making their own clothes, because they would not be fashionable, and that the case bore it?—No, we don't find it. We do much dressmaking to some of the elder girls, and we find we are quite able to accommodate our work to the fashion.

22885 How is the material supplied here?—The way we supply our material is, that there is an initial allowance given to every school of 1s. for every girl in attendance at that school, that is expended in materials of different kinds.

22886 What do you mean by initial allowance?—The whole allowance that a school gets for needlework is £2 per 100 girls, that is when a new school is started. They are not expected to want any more for a very long time, if at all, because at the end of the school year we sell all the garments that are made in the school and have a ready sale for them. Since this system of examination by those small specimens has come into operation, that has been a added expense, because it wastes a great deal of material, cuts up a great quantity of cotton and flannel, but we find that even with that added expense, the cost for supplying material to the girls in our schools was, during the last two years, one penny per girl, that is what it cost the School Board.

22887 What are the conditions of the allowance as regards sewing? Tell me first the particulars of the grant—there is an initial grant, what are the further grants?—This initial grant is an allowance by the School Board for the supply of material. The Government grant is, given, 1s. for every girl, if the inspector reports the sewing as good. Formerly sewing could be taken as one of the class subjects, and in that case we got 2s. per girl if the sewing was good. Now they have abolished it as a class subject, and simply give a 1s. grant all over the school, if good, and if it is not good, we get 6d.

22888 Do they examine each individual girl's

work?—They examine by selection from each standard. All the work of the school is laid out, and then he has half a dozen girls whom the inspector chooses himself, he allows the mistress to select another six, and in his presence they have to do certain exercises which he selects, so many of them have to do a buttonhole, and so many sew on tapes, and so on.

22889 To come now to laundry-work—what are the conditions of the grant for laundry work?—2s. is given for each pupil for twenty hours of instruction. We give it in some of our schools, but personally I am of opinion it is not a suitable subject for a primary school; the children are much too young, and the conditions in which they can be taught are not the conditions under which they do laundry-work in their own houses, they might be taught to iron and that sort of thing, but to do the process of washing you have to boil clothes and wring them, and leave them dried in the open air, you cannot teach that.

22890 When we were at Barrow-in-Furness we found a system of laundry work pursued there which was different from what obtained anywhere else; and I ascertained that it was not strictly in accordance with the rules of the Educational Department, and possibly may be put an end to. The practice there was to have a class, for one week in the year, of individual girls, and to put those girls for that week through the whole process of washing from Monday morning until Friday evening, so that each girl finished what she began with, and then to have another class another week, and not to have the same class again for a year, do you think that that would be preferable to taking a girl on one Monday and having her again on another Tuesday, and then on another Wednesday?—I think there would be more sequence in the teaching, more continuity, but my opinion is that it is only work that should be undertaken by strong women; I don't think it is suitable for little girls, the teaching might be given in evening schools to girls of fourteen or fifteen, but my own opinion is that it is entirely unsuitable for little girls of eleven or twelve.

22891 What do the parents think about it?—I have never heard any complaint as to the attendance at the laundry class, and the children like it.

22892 You have not heard of the parents objecting?—No.

22893 In Barrow we were told, that after the thing had once come into operation, the parents approved of it?—I think so.

22894 On the whole, your opinion as regards the age of scholars in cookery would apply equally as more so to scholars in the case of the laundry work?—Yes. Might I be allowed to make one remark with regard to the process of testing the efficiency in needle work? I think we suffer very much from the teaching in our schools, being directed with a view to satisfy the inspectors, it would be much better if the inspectors would examine what is being taught in the school. The teaching is carried on much more with a view to the examination than the examination is carried on with a view to the teaching given. The Department lays down certain regulations that they require to have carried out before they will give the grant. I think it would be much better if the school managers would submit to the Education Department a scheme of instruction, and that the examination should be on that scheme. I had that we must have different conditions in different schools, but the Department have a hard and fast code of regulations which they apply to every school, and every school has to come up to that, but I think the real value of the examinations would be if the inspectors would examine what the school professors, the Department of course reserving to themselves to say if the school did not profess enough.

22895 Most Rev. Dr. Wason.—We found that in England the Education Code, and the whole system of the Education Department, allow great elasticity in that respect?—What I mean is that we find teachers

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are not apt to direct the whole of their teaching with a view to satisfying the inspectors.

22896. CHAIRMAN.—You mean the teacher knows the examinee, and knows what he is likely to require, and works up to that?—That is so, and that applies specially to the examinations in our schools.

22897. That would apply, I suppose, to other subjects?—Yes, but we suffer most in reference to our sewing; with all deference to Her Majesty's inspectors, I don't think they are the people best qualified to examine sewing.

22898. Do you think the suggestion made to us in Ireland, to have lady inspectors of sewing, is a good one?—It would be most desirable; certainly some of the inspectors know a great deal about it, and I am filled with astonishment at the amount they have learned after long experience.

22899. You have some remarks to make about kindergarten?—I wish to make one remark, because I heard a question that was put by the Archbishop is regarded to its interference with the ordinary work of the school, I think this difficulty arises from a confused idea that exists in people's minds as to the Froebel system of kindergarten occupations. Froebel never taught children to read until they were five or six years of age, he confined the instruction to certain games and learning certain mental exercises, and they did not learn anything out of books for a good many years after they had been in the school. Now, it would be quite impossible to carry out that system in State-aided schools that had to conform to the regulations of the Code, but we have quite successfully introduced into our schools a great many of the kindergarten occupations, and these have come to be called kindergarten education. It is perfectly true that a child who had been brought up in the kindergarten, strictly on Froebel's principles, would be very far behind in many subjects—in reading and spelling—especially he would be very far behind a child taught in an ordinary school.

22900. Most Rev. Dr. WALSH.—But plainly not behind a child who had come in from the street, and had not been put through a kindergarten course?—No; his general intelligence would have been very much quickened, and he might have a very fair knowledge of common objects, he might have a fair knowledge of certain facts of natural history, but in ordinary school subjects he undoubtedly would be behind a child who had been brought up in an ordinary infant school—an ordinary school of any kind. I think the difficulty arises from people applying the same kindergarten to the kindergarten occupations, which are merely an adjunct of the ordinary work of the infant school.

22901. Rev. Dr. EVANS.—I feel greatly interested in the last remark you made, because I think it really contains the explanation of the difficulty that has been mentioned and that we have more than once referred to. As to needlework, and the inspection of needlework, do you think it desirable that an examiner or inspector should be able to point out to the teacher wherein there was fault, not merely to test a thing, but if the work was not well done to be able to show how it should be done?—Certainly.

22902. And, consequently, only a lady could do that?—Well, a person who was an expert in needlework; people who could do the work themselves would be the best examiners.

22903. It would be a very awkward thing for a male inspector to be giving instruction in how to do this and that to female teachers?—Well, I find a good many of our inspectors do know very well, at any rate they know when things are wrong.

22904. A lady of much distinction and high authority told us that we should have, in regard to cookery, the earliest years of the children in order to get them properly taught in the best way, she exemplified the matter thus:—she had a cook of her own, who did her duty faithfully and well as a cook; but this cook got married and settled down in the locality, and in her

own home was not better in her performance of cookery than the other girls of a similar class in life; and that the only way to get cookery properly introduced into our families was to begin with the children and get it into their system as early as possible?—I would begin at an early age, but not at such an early age, I think that a girl of thirteen or fourteen might quite well learn a great deal, but I think the cookery teaching should not begin before that age.

22905. Have you found this difficulty here, the girls are taught cookery at the school, but when they go home, the practice of their mothers—who are generally the cooks in the house—is so different that the young people follow the mother rather than the teacher?—We find that a great deal of the value of the teaching given depends almost entirely on the mothers; if the mothers encourage the children to practice what they have learned in the school we find it does good. That applies to all the education in our schools, that where there is a good background of a good home, and interested parents, then the school work is valuable. In regard to cookery, there are cases I know where it has been followed up by the parents, and the children have done good work, but it depends a great deal on the parents whether they are ready to practice at home the work they have done in the school.

22906. Mr. HANMERSON.—I suppose that what you mean is that if cookery is to be taught to girls in the last year of their school life, it would be with a view of their continuing it in the continuation school?—Possibly in the continuation school or at home, when they will have ample leisure to carry out their instruction before they have forgotten it.

22907. I suppose you hardly consider that a girl learning cookery in her last school year would have sufficient education in that branch?—I think she might learn enough to be valuable to her if she carried it on after she left school. Unfortunately I find the practice in our schools and in most of the schools of the country is to give the cookery instruction in the fifth standard. One reason adduced for that is that so many children leave school after the fifth standard, and if they don't get this teaching then, they don't get it at all. But I think the principal reason is that the girls in the sixth standard go in for so many more subjects that it is impossible for them to make sufficient advance in them to earn grants if they are taken away for the cookery lessons. I believe it is to a very large extent a question of how the school managers can earn the most grants.

22908. You referred to the question of domestic economy, what do you understand usually here by that?—Domestic economy in the schedule refers to questions as to food and clothing, the different constituents of food and the different kinds of clothing that are healthy, and so on. There are very many books on domestic economy. The teaching may be made valuable if the teacher is interested and knows about it, but it also may be taught in a very perfunctory manner.

22909. Rev. Dr. WALSH.—You prefer in regard to the forty hours' teaching that it should be one hour a week for forty weeks?—No, I think not, because you could not accomplish much practical work in one hour; most cooking processes take more than one hour, and it would take two hours to complete them, but a demonstration lesson might be well given in an hour.

22910. That would be two hours for twenty weeks?—Yes.

22911. And you would give no other instruction in cookery during the other weeks of the year?—That is all the time we can spare for it, that is one of the reasons why I think the girl should get her cookery instruction after she had finished her ordinary school life, because she could have it continually day after day, and for as many hours as were necessary to complete the process that she began.

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22911. It would occur to me that twenty lessons would be too few to give a girl a knowledge of cookery?—We don't profess to turn the little girls out as cooks, but to give them some lessons in the principles of cooking, and teach them to make a few simple inexpensive dishes.

22912. And you prefer to limit the numbers in the class to fourteen, or still better to twelve?—Yes.

22913. We find that to be the general opinion that a limited number is the best number?—Much better unless the teacher has assistants.

22914. Must Mr. De WATSON.—You think it of great importance at all events, I suppose, to teach them that there is an art of cookery, and that there are principles underlying it?—Oh, certainly.

22915. So that there would be, at all events, that advantage in giving even a small number of cookery lessons?—Yes.

22916. May I ask whether you aim at teaching them to cook with appliances such as they are likely to have in their own homes?—To a certain extent we try to do that.

22917. Is it not very hard to expect the children to carry out in practice the lessons that they get in school, if they are taught in school to work with a range of a more or less finished kind, and if when they go home they have only the plainest and poorest kind of grate?—That is the weak point of the whole subject, that the appliances in the school are much more elaborate than the children have in their own homes.

22918. Is not that a very serious drawback?—It is, but the difficulty would be in teaching a class of children with the appliances you would find in an artisan's home. You might teach two children at a time.

22919. But the main point would seem to be to teach them in a way that will be of practical advantage to them afterwards, and you lose that if you don't teach them a thing that they can afterwards carry out?—They can carry them afterwards to a certain extent, but that is one of the difficulties and disadvantages we have to contend with in giving this teaching.

22920. It is one of the drawbacks that have been found to exist when children who have been brought up in well-equipped industrial schools are sent out as domestic servants in small households of the humbler kind?—I don't think it applies to our schools so much as to large institutions, where they cook a large amount of food.

22921. I heard of one case of a child who was trained in a grand institution, where there was no light but electric light, and when the poor child went out to domestic service she did not know how to turn off the gas; but that is merely one aspect—a very important one, indeed—of a very important question?—That is a very important point, and it is a difficulty which has not yet been surmounted.

22922. We had some very interesting evidence in London from Sir Joshua Fitch in reference to needlework, and I should like to know to what extent you agree with him. He utterly condemned a system that exists to a certain extent in Ireland, of giving ten hours a week to needlework; he said it was a downright waste of time?—I think so.

22923. He considered that even five hours a week would be too much to give to needlework?—I think it is unnecessarily long.

22924. He even went so far as to say that in two hours of really good teaching, if the teacher worked on proper lines, you could do everything that an elementary school ought to do in the way of teaching of needlework?—If you had very small classes you might do a great deal in two hours, but with the stretchers usually in a class in an elementary school I don't think the teacher could give the amount of instruction which would be desirable.

22925. Do you agree with him in this—it is an

important point—that a great deal of what goes on in the schools under the name of needlework teaching is simply children passing their time doing over and over again some things that they already know perfectly how to do?—I don't think so, because there is a progression.

22926. Suppose that girls in a school were kept for ten hours in the week at needlework, is it not very likely that a great deal of their time would be spent in that kind of thing, and utterly wasted?—Oh, you ten hours would be most undesirable.

22927. Sir Joshua Fitch's idea was that in this department the elementary school should run simply at two things: first, to give the children sufficient instruction in the art of needlework, and then to provide for them as much practice as is necessary to make that instruction effective?—Yes, exactly.

22928. What he protested against was turning the schools into workshops, or teaching them as places in which needlework may be practised with a view, for instance, of turning out garments for commercial purposes?—I quite agree with him.

22929. But he recognises this—and I would ask for your opinion upon the point—that it is only by the making of garments you can really secure a sufficient amount of practice, or give the children a sufficiently lively interest in their work?—By our regulations each girl is required to turn out one garment complete in the year.

22930. And that is not with a view of turning out a thing of commercial value, but as a useful means to an end and that falls strictly within educational lines, as applied even to a primary school?—Yes.

22931. You have a very high opinion, I take it, of the educational value of kindergarten?—I have a very high opinion of its educational value as an adjunct to the ordinary teaching. I don't know that I at all accept all Froebel's principles.

22932. Probably what you now refer to is Froebel's original conception, according to which the school is one thing, and the kindergarten another. He objected to children going to school, I think, before they were six years old, or thereabouts, and he said, "We must send them into the school nursery, as it were, where there is to be no book work, but where their faculties are to be developed according to certain natural principles?" is not kindergarten in that sense wholly unknown in the public educational systems of these countries?—Yes, quite unknown.

22933. The kindergarten training that we have in Ireland is just what you seem to have here, now do you think it conceivable that the result of proper teaching on kindergarten lines would be to leave the children who had gone through it in a worse condition than if they had never got any training at all, and had spent their time out in the streets?—No; certainly not, but I think there is far too great a tendency on the part of managers and teachers to elaborate kindergarten occupations. I think the highest idea of kindergarten would be that the children should be taught such exercises as would utilise inexpensive materials. Some of our teachers are exceedingly resourceful, and provide materials at a mere nominal cost. In other schools we have considerable expense.

22934. Don't you think that in this matter of kindergarten training, when the work is in the hands of an incompetent teacher, there is a serious danger of the real purpose of it being lost, and of our having the mere name of kindergarten, with a number of the external appliances, the "gifts" and "occupations," and so forth, whilst in reality what is going on is not kindergarten training at all?—I think so.

22935. A teacher may really think that she is carrying out the kindergarten system even when she is working on lines that are diametrically opposite to those of the kindergarten idea, and she may have all the gifts and occupations, and go on using all the names that she has read or heard about, satisfying every possible requirement of an official Code, without

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having real kindergarten work at all—now, if in any place the children really come out from the kindergarten training, or so-called kindergarten training, worse than if they had not been at school at all, is in

not the obvious inference that they must have been getting, not real kindergarten training, but only the name of it, some useless, or probably some harmful, attempt at it?—Exactly.

Mr. Andrew
G. Tait.

MR. ANDREW C. TAIT, Head Master, Sciences Evening School, Edinburgh, examined.

22927. CHAIRMAN.—You are the First Assistant Teacher of the Warrander Park Day School and the Head Master of the Sciences Evening School?—I am.

22928. What class of pupils attend in the evening schools of the Board?—The class of children who attend the evening schools are practically the same as those who attend the day schools, of course the average age is higher, in addition to that we have a small proportion of pupils who have been trained in the secondary schools in the town. I have, as far as possible, made an abstract of the occupations of the pupils for the last year. I find that, taking the males, there were 256 clerks, 349 message boys, 72 unemployed, 1,114 who were engaged in one or other branches of artisan occupations, 161 who were shopmen, and 50 engaged in professional careers.

22929. Are there several grades of schools?—Until three years ago there were two grades of schools, the higher grade of school took only those pupils who had passed the sixth standard in the day school, the lower grade of schools took those who had passed standard five. Now, all the schools are grouped together under one name, continuation schools, with the exception of one which is attended by those pupils who have not passed standard five in the day school and who are allowed by special permission of the Board to leave the day school on condition that they go to that school. One distinction, however, there is in the schools, that in four or five of these classes special facilities have always been given for the teaching of the different branches of drawing, freehand, model, geometrical drawing, shading and building construction.

22930. And physical science?—And physical science.

22941. Was machine and building construction taught until last session with a view to the May Science and Art examinations?—Yes, until that time.

22942. What was the reason for severing the connection with the Science and Art Department?—It was found there was great difficulty to make the regulation fit in with the regulation in connection with our evening schools. The numerous requirement of the Science and Art Department is on hour, and the register must be marked at the end of the lesson. If a pupil were at that it debarred us from getting him for the evening for any of our subjects of general instruction, so when our pupils had that they had to devote two entire evenings to that particular subject and one evening to the subject of more general education, and this was found to be too much time to give to that subject except by those who had a special technical training in view. Then another objection was that the evening school classes finish about the month of March, these classes had to be continued to the month of May, and the extra expense in connection with that was more than was met by the grant. The grant earned was very small, because the time at the disposal of the pupils was not sufficient to enable them to prepare for the advanced examinations in the Science and Art Department, and under our present regulations it is found that the course of instruction can be badly fitted to the wants of the pupils. In connection with that I find an extract from the report of the evening schools for last year, which says:—"This arrangement," that is the separating of Science and Art classes, and teaching the subject with a view to a grant under the evening school Code, "is favourably commented on by all the headmasters of these schools as one affording better facilities for organization, and being on the whole, as well-fitted to meet the requirements of the pupils as that following

the lines of the syllabus of the Science and Art Department."

22943. Is physical science taught as a specific subject according to the regulations approved by the Scotch Education Department?—Not now. Until the introduction of the new evening school Code in 1893 that was the case, but since the introduction of the new evening school Code in 1893 it comes under the head of science subjects and subjects of practical utility.

22944. I see that there is a table you have prepared here which gives these schemes; is it with reference to the old system or with reference to the new?—With reference to the new.

22945. What were the effects of the new Code of 1893?—Before 1893, in the advanced schools, that is to say, the schools which were attended by those pupils who had passed standard six in the day school, grants of 2s. could only be claimed on every individual pass, in what were then considered the specific subjects. These specific subjects were the same as were taught in the day school, on a special scheme might be submitted by the headmaster to the Department, and the examination would be made on that, but the payment was entirely made on individual passes. Now the payment is made entirely on the attendance and the quality of the work done. Two grants are paid: a fixed grant of 1s. per pupil per hour, and a variable grant of 1d. or 1½d. per pupil per hour depending on the quality of the work done. The effect of that was to give us much more freedom in the class of subjects we taught. We were then enabled to give more of a general education even to what had been the advanced schools, that is to say, not to neglect such subjects as English, English literature, and composition and arithmetic.

22946. What subjects are taught in the various schools?—The various subjects of practical science, and in addition to these we have such subjects as shorthand, book-keeping, English, geography, French, conversation, domestic economy, needlework, sewing, drawing, manual instruction in woodwork, drum-making, and vocal music, indeed all the subjects of the ordinary day school curriculum.

22947. How long does the course extend?—The course in science extends to twenty-four lessons of one hour each.

22948. And in book-keeping and machine construction?—Two hours per week, extending over 24 weeks of the session.

22949. Are science subjects voluntary?—In the schools in which I have acted I have always made the subject voluntary, but in some of the evening schools, I believe, it is intended on as an ordinary part of the school curriculum.

22950. Where more than one science subject is taught are the pupils allowed to select one?—Only one, that is my own practice.

22951. What proportion of pupils take science?—Practically one-third of the pupils of the school.

22952. How is the apparatus supplied?—By a grant which we have received from our Board. I saw my dear late Board was exceedingly generous in this respect, we never asked for anything in the way of apparatus but we got it without any trouble. At one time the Board itself received a grant from the Town Council, and part of this grant could be applied in this way. That grant, I believe, has been withdrawn by the Town Council, and is now applied to the relief of local rates.

22953. What do you say with regard to the teacher's qualifications?—Almost without exception

the teachers in our Edinburgh Board schools have received a certain amount of scientific instruction in the training colleges; we very rarely in our walls are without one or more who possess certificates under the Science and Art Department to qualify them to give instruction in particular branches in which we wish instruction given, but the difficulty is sometimes this, that although they have this theoretical knowledge, as the subject is not taught generally in schools there is some difficulty in getting a man with practical experience.

22954. Mr. HARRINGTON.—How is the apparatus you speak of supplied, is it supplied by contract?—No, we send in our order to the School Board offices it is supplied by a firm in town, not by contract at all, we see the articles we wish and select these; there is never any trouble about that.

22955. Rev. Dr. WILSON.—What are the numbers that attend the school?—Last session the enrolment was over 3,000, the average attendance was 2,834.

22956. How long have these schools been in operation?—I suppose the Edinburgh Board have had evening schools open for the last twenty years, but it is only within the last eight years they really have become popular.

22957. Most Rev. Dr. WILSON.—Is there not considerable elasticity in the Scotch Code as regards the programme for elementary science work?—Oh, yes, we have perfect freedom in that matter. The Department issues a syllabus, but we are not bound down to that at all, they are always willing to accept any scheme submitted to them.

22958. Does the Code itself contain a number of alternative programmes?—Not alternative programmes.

22959. We found that the English Code does; but then we were told that, in addition to all the alternative courses set forth as alternatives in the Code, it was open to the manager of any school to submit a programme of his own, and if his programme was approved by the inspector, he could then go on teaching his school according to that programme?—That is the regulation here.

22960. In the English Code I think there are seven programmes in elementary science, and we were told that these were merely specimens, each of them representing a particular type, for the information of the teachers, or of the public, all the further latitude which I have described being allowed besides, have you in Scotland the same variety?—The Department themselves give a Code to be followed in connection with the practical sciences, but you don't need to follow it unless you like. you have perfect liberty to submit any scheme you think suitable for your district.

22961. And having made out a suitable scheme, you teach according to that scheme, and the inspector is bound to deal with you on the basis of that scheme?—Yes.

22962. Does that apply only to elementary science?—No. In the evening school we have book-keeping, shorthand, and English literature.

22963. Does it apply to the subjects in which you are in connection with the Science and Art Department?—Yes. We are not now in connection with the Science and Art Department for any subject, but we may submit schemes for any science subject we wish to teach, to the Scotch Education Department, and then, when it has been approved, we teach in accordance with it.

22964. Mr. STANTON.—Might you not put it this way that there is no subject in which the managers may not submit what scheme they please?—There is no subject in which they are not submit a programme in evening schools.

22965. Even in elementary subjects?—Yes.

22966. Does not that apply in day schools in the case of those subjects?—Yes, in geography, history, and English.

22967. I find a note to the fifth schedule in the Code.—The examinations in the class subjects mentioned in this schedule will either follow one of the courses indicated in the schedule, or if the managers desire they may submit to the inspector at his annual visit some progressive scheme of lessons in this subject suited to the requirements of the school?—That is so.

22968. In the case of an evening school as distinguished from a day school there is no fixed annual examination?—None.

22969. They have visits without notice?—We have during the course of the year two or three visits without notice from the inspector; he goes round and sees the working of the whole school, he may examine orally any class which is going on at the time. The work goes on without rearranging the time table, and towards the end of the session he is at liberty to give a written examination in any subject he thinks fit.

22970. But that would be only towards the end of the session?—Yes.

22971. And in setting the written examination, or even in the oral examination, he would be very careful to follow the lines of teaching?—Each teacher in our evening schools keeps a note of what he has done during the session, he has the scheme before him, and is able at any part of the year to tell the inspector how far he has gone, and the inspector will make his examination follow the scheme.

22972. He does not examine on a scheme arranged beforehand, which the teacher may not have been able to carry out, but examines on what the teacher has been able to do—the examination would be on what he had done?—That is so.

22973. And don't you think that that method of examination has conducted to some extent to the efficiency of the evening schools?—It has conducted very greatly to the efficiency of the evening schools.

22974. You are able to carry on your work on the lines you think best without having it disarranged for the purpose of an examination?—We simply teach as we find we are able to carry our pupils on through the session, and the inspector, if he is satisfied that sufficient progress has been made, is quite willing to accept what has been done.

22975. And on the other hand there is no barrier to a perfectly thorough examination towards the end of the session on the work that has been done?—Last year we had no written examination whatever, but in the previous session we had a written examination in book-keeping, shorthand, and arithmetic, almost on the same lines to what we had before individual examination was abolished.

22976. Judging from your experience of that method of examination in evening schools, you would rather argue that a similar method would have good results in a day school?—Yes, to a certain extent, only in some subjects in the day schools I don't think individual examination could be discontinued; I think you can only form a complete judgment of parts of the work by seeing individual results.

22977. My point is rather the question of a fixed date for examination versus a visit to the school at uncertain intervals and examining on the work done?—I would prefer a visit at uncertain intervals and examination on the work done even in day schools.

22978. And it would permit of more progress being made in many subjects?—I think so.

22979. Is it not the case that children are kept marking time in reading and arithmetic perhaps for a month before the examination?—I don't mean the whole of the school?—In very many cases it is, many of the better children have the work of their standard up two or three months before the time of the annual examination, and the rest of the time is marking time.

22980. That is an enormous waste of educational power?—Yes.

22981. And that is due to having a fixed examination?—To a very great extent it is.

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Oct 31, 1897
Mr. Andrew
C. Tait.

Edinburgh.
Oct. 11, 1897.
Mr. Andrew
C. Tait

22962. You have a great many subjects taught in the evening schools?—Yes.

22963. Very largely of a practical character?—Almost entirely.

22964. Such things as the pupils are likely to need in the occupations they are now following?—In the schemes of sciences we draw out we keep that in view almost entirely, and select those parts of the sciences which are likely to be useful to the pupils.

22965. You find a great many pupils taking up book-keeping because they find it useful in their occupations?—We find book-keeping most commonly taken of all the subjects.

22966. And shorthand is very commonly taken by pupils because they have found it useful in their employments?—Almost every clerk who comes to the school takes shorthand.

22967. Would it not be better to have these sub-

jects taught as much as possible in the evening schools entirely, and relieve the day school course of a large amount of that work?—I think so; I think book-keeping and shorthand ought to be taught entirely after the pupil's more elementary education has been completed.

22968. That is to say book-keeping should be taught to those children who want book-keeping and find it an advantage to them, and in that case it should be taught in the evening school?—Yes, and not taught to all and sundry, and it would be if it was a subject in a day school.

22969. Nine-tenths of whom may never have any occasion for book-keeping?—It is quite possible.

22970. Most Rev. Dr. WALSH.—What would you think of a suggestion that seems to me a rather indefensible one, that in all city or town schools book-keeping should be made an obligatory subject?—I think it would be a very bad one.

Glasgow,
Oct. 12, 1897.

FIFTIETH PUBLIC SITTING.—SATURDAY, OCTOBER 23, 1897.

AT 10 O'CLOCK, A.M.,

At the School Board Office, Bath-street, Glasgow.

PRESENT.—THE RIGHT HON. THE EARL OF BELMORE, M.C.G., in the Chair; HIS GRACE THE MOST REV. WILLIAM J. WALSH, D.D., THE RIGHT REV. MONSIGNOR MOLLOY, R.D., D.S.C.; REV. HENRY EVANS, D.D.; REV. HAMILTON WILSON, D.D.; STANLEY HARRINGTON, Esq., B.A.; W. R. J. MOLLOY, Esq.; and J. STRUTHERS, Esq., B.A.;
with J. D. DART, Esq., M.A., Secretary.

Sir JOHN NELSON CUTHBERTSON, M.D., Chairman, School Board of Glasgow, presided.

22991. CHAIRMAN.—You are the Chairman of the School Board of Glasgow?—Yes.

22992. You have paid considerable attention to the subject of our inquiry?—Well, I should like to say, my lord, that my first desire is to welcome you to Glasgow, and then, secondly, to answer any questions of a general kind that you may have to put. I would like to refer to our clerk, Mr. Alexander, for any details, while I am quite prepared to reply to general questions.

22993. Perhaps then you would in general terms make some observation upon the instruction in woodwork that is carried on in Glasgow?—Well, I must say, my lord, that it is still on its trial with us. About six years ago it was first introduced, and we have every reason to be satisfied with it. We have at the present moment ten special workshops in different parts of the town, seven in operation, and three nearly completed. The first one that we established, five or six years ago, has been very successful; it is a centre, and the schools of the district, to the number of about nine, send their scholars there, chiefly the upper standards. As far as I can form any opinion, I should say it is not desirable to send young boys to this manual instruction, in fact I should be inclined to restrict it to the sixth standard.

22994. At what age do they enter the sixth standard, as a rule?—About twelve or so. I should say that it does not lead to much advantage for younger boys than that, however, we have some of the fifth standard that are sent, and the testimony of our headmasters is entirely in favour of it. We thought at first it might take the scholars' minds off their general lessons, but it is not so, in fact I have one case in my mind at present where the headmaster, being told that a boy had attained great proficiency in the manual instruction

place, said "Well, that is the dullest, stupidest boy in my school," and it was the means of rousing him and finding the way he was capable of being got at. On the other hand the same headmaster said that some of his brightest boys could make little head of this manual instruction. Our experience is that it has brightened the school, especially the slower boys, who don't take up literary studies, and I don't say that the better scholars have not profited too, but it is more marked in the case of the boys who have not taken to literary work.

22995. How did you commence and develop the system?—It began in one of our schools where we put aside one of the rooms for the purpose, and fitted it up with benches and tools, and got an instructor. I may mention that the instructor was a skilled mechanic who had resolved to follow up his studies at the University, a man of considerable acquaintance with mathematics and practical mechanics. He gave us his spare time from his university studies, and we were so pleased with the success of that one class that we next built a special building in the east end of the town, Dalmeck school, which I am told you are likely to see on Monday, and thither we transferred that same gentleman, and he takes the scholars from the nine schools in relays and occupies all his spare time in that way.

22996. Perhaps I better leave this question of cost to Mr. Alexander, and ask you generally what you consider to be the value of the instruction?—You mean from an educational point of view? I have explained that I think it brightens the scholar and is a pleasant relief from the drudgery of the schoolroom.

22997. Do you think that it develops the power of observation in a way to counteract the effect of the tendency to learn lessons by rote, which all children

Sir John
Nelson
Cuthbertson,
M.D.

have?—Certainly, that is the prime object in the movement. And in the matter of cost, we found that this centre that I have spoken of is run at comparatively small cost. By concentrating so many scholars upon it, and the grants (after the initial expense, which is considerable), the expenditure is really not serious.

22998. As regards drawing, how is drawing taught in the schools?—We have seventy schools and about 22,000 scholars. All the boys in that number are taught drawing from the infants up to the oldest and most of the girls. I think there are only nine schools in which the girls are not taught drawing.

22999. Do they teach both freehand and scale drawing?—Oh, yes. They begin, of course, with geometrical drawing, but they get also freehand and scale drawing.

23000. Is instruction given by the ordinary staff?—Yes, with the exception that we have three experts in drawing, who visit certain schools. We take all our teachers bound to teach drawing in fact, in appointing teachers, we make it a point to select those capable of teaching drawing.

23001. Is any instruction given to pupil teachers?—The pupil teachers themselves don't teach drawing, but they are carefully instructed. We have a Pupil Teachers' Institute, where all our pupil teachers to the number of 500 go half the day. They teach in the schools half the day and go to this institute the other half, and drawing is an important part of their studies.

23002. What is the amount of grants earned, and the share of it to the teachers in drawing?—We give a percentage to the teachers—as a rule our teachers are not paid by grants, they get fixed salaries we have a scale of salaries, but in the case of drawing we have thought it desirable to give them a little interest and stimulus: perhaps a couple of pounds or so, to those who are qualified. Do you mean the salaries of grants examiners?

Mr. Alexander, Clerk to the School Board of Glasgow.—The total earned for drawing last year, £3,746 16s. 0d.; of that probably about £1,000 would be given to the teachers.

23003. CHAIRMAN.—Are any prizes given to the children?—Chiefly for attendance. In the upper standards they do get rewards for specific subjects, but the bulk of the prizes are given for attendance: we thought it really was an economical thing to induce them to attend.

23004. Dealing with science and object lessons, in what subject are classes carried on in the day schools under the Science and Art Department?—Well, you are aware that the Science and Art Department have withdrawn the grants for the day schools, but we continue the classes nevertheless.

23005. Have they withdrawn them entirely?—Yes, but we are so impressed with the importance of more in day schools that we intend to continue them at our own charges: they are taught mathematics, chemistry, physics, physiology and botany to some extent.

23006. Mechanics, magnetism and electricity?—Magnetism and electricity also, not so much as it used to be. We found electricity, although a very popular subject, was not exclusively educational.

23007. I understand you to say that they have withdrawn the grants altogether?—From the day schools, on this plea, that they say they don't see why scholars who are getting a Parliamentary grant as day scholars should also get a science and art grant.

Mr. Alexander.—That is to prevent the duplication of attendance grants—some years ago the second day elementary grants were withdrawn, and a large number of schools were cut off at that time.

23008. CHAIRMAN.—Are any chemical laboratories fixed up in the schools?—Yes, sir, we have altogether

nine laboratories, eight in the elementary schools and one in the High school; that is a matter that dates back fourteen or fifteen years when we began to have these laboratories and examined the Science and Art Department, who gave us their advice and we have found them very useful.

23009. Are the teachers of science, teachers on the ordinary staff?—Yes, we are speaking about the day schools not the evening schools.

23010. Elementary science was taken as a class subject, in eight schools, I understand?—Yes, we are trying to promote it in every school now.

Mr. Alexander.—There has been a change in the Code.

23011. CHAIRMAN.—The Board is now taking steps, I understand, under article 19a 5 to make the teaching better in forty-one schools?

Mr. Alexander.—It is given in forty-one; we mean to add the other twenty-seven or twenty-eight now if possible.

23012. CHAIRMAN.—What is the Board's scheme of lessons?—It is meant chiefly as a guide, and consider able scope is left to the teacher to present a scheme of his own, but it might be well that you should have this paper (produced) as a suggested syllabus of instruction.

23013. Science is taught to pupil teachers?—Oh yes, we are carrying the education of our pupil teachers to a very considerable length now. I may mention as a gratifying feature that at the preliminary entrance examination of the University just concluded, six of our pupil teachers passed that examination, which is a stiff one, and obtained bursaries.

23014. Rev. Dr. Evans.—What difficulties had you to encounter when you started this manual work, I mean difficulties on the part of parents of children, objections on their part?—We have not had any serious objection so far as I know, one or two parents have just recently asked their children to be exempted for different reasons.

23015. Did they say they did not want their boys to be carpenters or something of that kind?—They said so, they did not quite understand our object.

23016. Have these objections melted away or do they still continue?—They still continue as to a certain extent on the part of persons who are ill-informed.

Mr. Alexander.—Less than two per cent. of the whole boys are withdrawn just now.

23017. Does the Glasgow School Board employ an inspector of its own?—No, our manual instruction work has not yet reached such magnitude as to require an inspector: we have only these seven centres with three in the course of formation, scarcely requiring a general inspector, but it is quite likely we shall by and by have one.

23018. Does the Science and Art Department pay you fees for this manual instruction?—A grant.

23019. Mr. HARRINGTON.—Is this scheme of object lessons and elementary science teaching compulsory on the standards?—Oh, no, it is suggested.

Mr. Alexander.—Do you mean it is made compulsory by the Code?

23020. Mr. HARRINGTON.—Are the pupils obliged to take it?

Mr. Alexander.—Oh, yes, in the schools where it is taught but the teaching of it has been left to the option of headmasters.

23021. Is it a popular subject with the pupils?—Dreadfully.

23022. And how long is it since this has been introduced?—I think about four years.

Mr. Alexander.—This particular article in the Code was introduced in 1895.

23023. Has the effect on the pupils been appreciated, do you think, by the employers of labour?—I can't know that there has been time. I don't think the nature of that instruction is such as materially to tell on the future employment of the child, it is more

Glasgow.
Dec. 22, 1896.
—
Sir John
Edmond
Cuthbertson,
Bt. Esq.

Glasgow.

Oct. 21, 1897.

Sir John
Newnes
Cuthbertson,
L.C.S.

to open their minds and give them a taste, to encourage them to go forward.

23024. I suppose the testimony you have from the people over there, the headmasters, is that it has improved the intelligence of the children?—No doubt, if there is any class in the day that is relished, especially by the boys, it is the science class.

23025. Mr. MONTGOMERY.—You mentioned that the teachers in the workshop were mostly trained as engineers?—I said that the last two we employed were mechanical engineers.

23026. Who proceeded to the University?—Yes, who were going to the University, but we have appointed several others since that were not so.

Mr. Alexander.—There are only two, Sir John.

Witness.—We have one I know who is a trained teacher, and then besides these mechanics we have assistants, who are generally artisans; in fact, we proceeded on the plan of having usually two teachers; the Government require if there are more than thirty boys that there should be two. We have a chief instructor and an artisan working together, which is to my mind the proper way, because the artisan sharpens the tools and sees that the wood and everything is kept in order.

23027. And the other knows how to teach?—The other knows how to teach.

23028. You mentioned, if I mistake not, that you had 500 pupil teachers in seventy schools under the Glasgow Board. We have a class of junior teachers called pupil teachers in Ireland and I want to see how they would compare with your pupil teachers; what ages may these be?—From fourteen to eighteen, we don't take them under fourteen.

23029. Then they would rather correspond to our class of monitors?

Mr. Alexander.—There are 100 monitors besides.

23030. Of the junior age?

Mr. Alexander.—Yes, the majority, fourteen.

Witness.—Our training colleges don't admit them until they are eighteen.

23031. After the 100 monitors the next gradation will be pupil teachers, and then assistant teachers and principal teachers?—Yes, we have an intermediate stage that we call our pupil teachers, who have been pupil teachers and have not succeeded in getting into the training colleges and have remained for some years in the hope of getting admission into the training colleges.

23032. Is there only one training college in Glasgow?—No, we have two—indeed there are three now; there is a Roman Catholic one.

23033. Any of these for men exclusively?—No, the Church of Scotland one and the Free Church one are for men and women, and the Roman Catholic one is for women.

23034. Of the seventy teachers employed in your schools what proportion may be said to be trained?—All the headmasters are trained teachers.

23035. Are the assistant teachers similarly trained?—We have altogether at present 972 certificated masters and mistresses, and there are besides uncertificated assistants, forty-eight.

23036. Then your pupil teachers from the institution they get at the central institution to which you refer and very likely also in the schools on proceed at once to the training college after undergoing an examination?—After undergoing an examination, eighteen being the minimum age for admission.

23037. Chemical laboratories were fitted up and instruction given in chemistry prior to your manual instruction arrangements being adopted?—Yes, the course our manual instruction has taken has been this, first, there was drawing, that was the beginning, then came cookery; all our girls in the upper standards got cookery; we have forty-seven sections for cookery, then came the laboratories for chemistry of which we have seven; then came the laundries, of which there are twelve, and lastly the workshops for manual

instruction; so that we have about seventy-eight different rooms set apart for working with the hand.

23038. Where do the teachers who are at the head of the chemical laboratories get their special instruction?—It began, no doubt, in the training college, and many of them have been at the University. We encourage all our male assistants to attend the University where practicable.

23039. With regard to your scheme of elementary science teaching for standards, I see physics comes in at standard five, and is continued to standard six, would you be able to compare your scheme with the scheme under the Science and Art Department, that you had formerly in operation?—Oh, that is a different thing altogether, the Science and Art Department was at higher work.

23040. For adults?—No, no; but it is a higher scale of work than that.

23041. Do you find that your scheme, which appears to me to be very excellent indeed, suffers for the instruction of the pupils?—Well, that is a matter of opinion; perhaps I may be allowed to say that the Scotch Act of 1872 is in advance considerably of the English Act of 1870, because we can teach anything we like, and go to the higher subjects so the idea the education in Scotland formerly included the higher subjects, so that we are not restricted to the three Rs, and we have always aimed at giving as much of the higher instruction as possible to those scholars who were fitted to receive it. And those afternoon Bazaar and Art classes have been at a higher class than that syllabus.

23042. At present are not your senior pupils, on leaving school, sufficiently informed to proceed direct to the University?—Not from the ordinary schools, but we have five schools with secondary departments, and then we have two high schools, a boys' high school and a girls' high school, and these schools send their pupils direct to the University.

23043. Then the Glasgow School Board supercedes the work of the higher education as well as of the elementary?—It does; the high school was handed over to us in terms of the Act.

23044. Monsieur MONTGOMERY.—Is physical science taught in all the schools under your Board, is only in some?—At present it is taught in fifty-one out of seventy, and we hope to teach it in all by and by.

23045. Then the result of your experience is that you are rather inclined to extend the teaching than to withdraw from what you have already done?—Most certainly.

23046. Because you find it beneficial for the interest of the pupils?—We think so, and there is an increasing desire with the members of our board; they are rather inclined to give the scholar what is called a modern education than to go back to the classics.

23047. This course which you have put before us in outline, as it is taught by the teachers from a text-book, or from a more extended programme than we have here, or is the teacher left to his own ideas?—I think he is left pretty much to his own ideas, and encouraged to teach it as object lessons.

23048. Then the only limitation upon him is the outline given in this printed programme?

Mr. Alexander.—This is meant simply as a guide, he is not tied down to that; what he is tied down to is the scheme he draws up and gets approved by His Majesty's Inspector.

Witness.—On the basis of that.

23049. Then the teacher, on the basis of this general outline, draws up a specific programme, which is approved by the Inspector, and he teaches according to that programme?

Mr. Alexander.—Yes.

23050. I suppose the course in physics consists of lectures, illustrated by experiments?—Experiments, perhaps, too big a word to use; but, at all events, it is shown experimentally.

23051. But, for instance, when he deals with magnetism, he will have magnets and needles?—Oh, certainly; we supply apparatus to all the teachers who teach these subjects.

23052. Is the apparatus supplied at the cost of the School Board?—Oh, certainly.

23053. Now, is there in Glasgow any system of technical education to which your children can go when their school course is finished?—Yes, sir; in the first place, there is the Allan Glen school, which I understood you are going to set on Monday, which is an organized science school of the first rank, and after that there is the Technical College, a very successful institution, which is attended by about 3,000 students, day and evening.

23054. And is there a considerable proportion of the School Board children who go to these technical colleges?—I cannot say that, the proportion of School Board children who go to higher education of any kind is only 4 per cent.

23055. Do you desire that that proportion should be increased?—Most certainly; all my effort—I have been eighteen years on this Board—has been to promote secondary education, but the temptation of wage earning is too great.

23056. Then the bulk of children go to wage earning after their School Board course is finished?—Unfortunately we cannot keep them so long as we would like.

23057. Mr. HARRINGTON.—How long are they kept?—Fifth standard in the compulsory age in Scotland, and an intelligent child can pass that at eleven years of age.

23058. MESSRS. MOLLON.—Is there no limit of age as to the time at which they can begin to earn wages by labour?—Oh, yes, they cannot be employed full time in a factory under thirteen.

23059. Then those who go to factories may remain for two years after leaving school, having about?—That is quite true, they may get employment as messenger boys or girls.

23060. You would desire to improve that system?—Certainly; it is the defect of our system at present that we cannot keep them longer.

23061. Do you think if they could be induced to go to these technical schools, in the intermediate stage, it would be of great advantage to them?—I rather think technical schools of that kind are beyond the capacity of the great bulk of them.

23062. But suppose that 50 per cent. were fit for technical education, instead of 4 per cent.?—It would be very desirable, and observe we encourage them all we can to attend evening schools, and we have evening schools attended by about 14,000 scholars; they are going on now.

23063. Can you say, roughly, what proportion of the School Board children go to evening schools after their School Board course is finished?—We might say 10 to 15 per cent.

23064. Are these evening schools under the Board?—Yes; we are very pleased with the result.

23065. In the evening schools do you continue the course of manual work, and of physical science?—I think there are two classes for manual work.

Mr. Alexander.—It was begun this winter for the first time.

23066. What about physical science?—That is developed of course, much more largely in the evening. There are classes quite advanced for these subjects.

Mr. Alexander.—Under the Science and Art Department.

23067. Then, in fact, you have made provision, in your scheme, for the training of pupils in manual work, and also in the elements of physical science, from the time they began their education, until they have completed a course in the evening schools, if they wish to go to those schools?—Yes, we have pupils going on twenty and twenty-one, and twenty-two years of age, in the evening schools.

23068. And if they choose to go further, they have the technical schools?—Yes, and any amount of

libraries; we have no trouble in Glasgow in getting clever children educated.

23069. Do you find, practically, that these simple elements of science, which are taught in a primary school, are of great advantage to the children who wish to continue their education afterwards in evening schools and in technical schools?—Of course that is only a matter of opinion, but I give my opinion that it is of advantage.

23070. If they had not got these first elements in the primary schools, they would not be fit to begin the technical course?—I dare say you may have heard different opinions about that. I have heard professors at the University say they would far rather have a student who knew nothing, and the professor could mould him according to his own ways.

23071. Well, university professors sometimes have peculiar opinions. I suppose if the children were taught according to the particular ideas of those university professors you refer to, they would be willing to leave them taught in the primary schools?—I don't know, sir, I don't think anybody supposes they will learn a great deal, but they have got their wits sharpened; they are being got to observe nature and natural objects, and they get a taste, I think, to pursue their studies further.

23072. Then you consider the chief advantage of this teaching is that it cultivates those faculties of observation?—I do.

23073. And that they acquire some skill to use their hands and fingers?—I think that is about it.

23074. You have two training colleges, I think, under the Board?—Not under that Board, they are under the churches, they are denominational: the Roman Catholic one, I speak with deference, is entirely denominational, but the other two receive pupils without distinction.

23075. But in their administration they are denominational. They receive pupils of all denominations, but the authorities belong to particular denominations?—They do. I would like to say that the new one for Catholics is very admirably equipped.

23076. I think you said that a large proportion of the teachers in the Board schools, have been trained in these denominational training colleges?—You may say the bulk of them, because we always prefer those who have been trained.

23077. I suppose in the training colleges they give a course of physical science?—They do.

23078. And of manual work?—Not manual work, I think it might be desirable that they did give manual work, but they don't, they study mathematics. I am chairman of one of the colleges.

23079. Could we see the actual teaching of physical science in one of these colleges?—I shall be very happy to inquire. They are open to inspection.

23080. Rev. Dr. WILSON.—You mentioned that you had a pupil teachers' institute; what is the nature of the instruction given in that institute?—Well, it is the highest professional training we can give them as teachers; it is in a measure a preparatory school for training college and university.

23081. The training colleges you say are practically denominational. From what sources are the expenses of these training colleges derived?—Chiefly by Parliamentary grant.

23082. Most Rev. Dr. WILSON.—Three-fourths of the amount comes from the Parliamentary grant?—Yes.

23083. Rev. Dr. WILSON.—You have no results fees in the Glasgow schools?—No, our schools are all free, with the exception of the upper.

23084. A fixed salary to the teacher?—It is in most cases a fixed salary.

23085. The School Board provides that salary?—Yes, out of its funds.

23086. And those funds are derived from the city rates?—First from the Government, the Parliamentary grant, and secondly by local rates and grant in relief of rates, and, to a small extent, from fees in the secondary departments.

Glasgow
Oct. 21, 1887
Jas. John
Stirling
Cuthbertson,
S.S.S.

Glasgow.
Oct. 19, 1907.
Sir John
Morison,
Cathberton,
Lancs.

23067. You have forty-seven centres of cookery, is cookery made compulsory for all girls?—Well, I believe it is. We insist that they do take lessons in cookery, and I think they don't require any compulsion. The girls like it very much, and I believe for the last ten years every girl who has left our school in the fifth or sixth standard has been taught cookery.

23068. Only 4 per cent. of the Board's pupils go to the higher education, nearly all the balance of children who go to higher education, are educated in private schools of a better class?—We have hardly any private schools in Glasgow, there are private academies in the suburbs, but we have practically the whole education of the city of Glasgow between the Board and the Roman Catholic schools.

23069. From what source are those pupils drawn that go to the university, is it from the country districts?—Yes, the universities are Scottish institutions, they come from all parts of the country, but you will observe that 4 per cent. on 75,000 is a considerable number.

23070. Most Rev. Dr. WATSON.—I think you said, Sir John, that there was at all events no opposition to be overcome on the part either of the teachers or of the parents, when manual and practical instruction was introduced into the schools?—Well, I cannot say that it was received with acclamation; it has been growing.

23071. In the beginning the teachers probably had some feeling of reserve on the subject?—I think they had considerably; even yet, there are some who don't see the importance of it, but, as a whole, I should say they do.

23072. But in the beginning, at all events, they were, to say the least of it, not enthusiastic about the introduction of this subject?—That is so.

23073. Has that feeling altered to any considerable extent, as far as you know?—I think it has, I should say five out of six teachers would welcome it now.

23074. That is, the feeling has changed to this extent, since they have come to have experience of what this kind of instruction is, and of what its effect is upon the schools?—Yes.

23075. Including its effect upon the other branches of work, the bookwork, as we may call it, in the schools?—I think so.

23076. Was there any difficulty to be encountered from the Trades' Union point of view?—That was stated in the newspapers, but it never came before us.

23077. Some members of trade organisations may have had some idea that you were going to flood the labour market?—That is so.

23078. But this all came from quite a false conception of the work you were doing?—Quite so.

23079. Kindly explain that point, developing it a little: what was the idea that underlay their opposition?—The idea of the Trades' Unions was, I have no doubt, that we were doing away with apprenticeship, that we were manufacturing artisans who had not gone through the usual course of apprenticeship in the workshop, and we had to make it quite clear that we had no such intention, and in fact that our teaching would not have that effect.

23100. And I hope they have come to see that this teaching, in so far as it affects the interests of the trade organisations at all, tends rather to lighten the work of the trade teacher afterwards, have they yet come to appreciate the advantage of having a boy come to them better prepared to use his hands?—I don't think that the joiners, for instance, or the carpenters, speaking roughly, I don't think they attach any importance to our work at all; I think they want to instruct the boys after they get them themselves.

Monsieur MORLEY.—They are like the university professors.

23101. Most Rev. Dr. WATSON.—But, plainly, a boy who has had the benefit of manual and practical instruction in school will afterwards be better

qualified to receive special instruction in a trade when he comes to it?—I am sure he will take it up better.

23102. I assume it is fully understood in Glasgow that the business of the primary schools is not to teach a trade?—We have always avoided that, and even in the matter of technical education we hold that the business of the technical school is not to teach trades, but the principles underlying the trades.

23103. Including the development of those faculties that it is important to have developed for the future career of the boy in a trade?—Precisely.

23104. Is it also well understood here, that manual and practical training in the elementary school, is of use to those boys who will pass on to other occupations than trades? I speak of the training that they get in such matters as accuracy of observation, and the importance of accuracy even in matters of small detail?—I think that is really the object of the training, to encourage habits of accuracy and observation.

23105. But, very naturally, in the beginning, that view of the case was not fully perceived by the outside public, at least by the less observant and less intelligent section of the outside public?—No, it requires to be explained and understood.

23106. Has the suggestion ever been made in Glasgow, that all this manual instruction ought to be eliminated from the schools and reserved for special schools, customhouse schools, or technical schools?—I have never heard that suggestion made.

23107. Do you take my view that such a suggestion would show an utter want of appreciation of the real nature of the work that has to be done in elementary schools on the one hand, and in continuation or in technical schools on the other?—Well, you would lay yourself open to the imputation of teaching trades.

23108. You mean that such a suggestion would have no foundation or no meaning unless what you were doing in the elementary school had in view the requirements of some particular trade?—Precisely.

23109. Your testimony is that the effect of the introduction of manual and practical instruction, on the general teaching of the schools, has been favourable?—Yes, I am distinctly of that opinion.

23110. This manual and practical instruction is an attractive branch of schoolwork?—Especially to boys.

23111. And as a result of your experience here in Glasgow the feeling of the Glasgow School Board is that, so far from having it set down in any way, greater facilities should, as far as possible, be afforded for it, you are increasing, I understand, the number of centres for woodwork instruction from year to year?—We are.

23112. You had seven centres in operation last year?—Yes, and three new ones.

23113. How many schools in all have you in Glasgow?—Sixty-nine Board schools and the High School.

23114. From a return that I have here, I see that pupils from thirty-four of those schools attend at the existing centres for woodwork instruction?—That is so.

23115. The total number of pupils in the Glasgow schools is seventy or eighty thousand?

Mr. Alexander.—75,000 in the Board schools.

23116. Do your returns deal with voluntary schools as well as the Board schools?—Indirectly.

23117. I understand that you give prizes for attendance?—We do.

23118. Can you state whether they are given on the same basis as the prizes for attendance that are given in Edinburgh, where no prize is given except for absolutely perfect attendance—that is to say, a prize is given to no pupil who has not attended without missing even one attendance during the year?—I think we allow a few more.

23119. I see many objections to the Edinburgh prize system, even the death of a child's father or mother, or brother or sister, would not be taken into account, nor a child's illness, no matter though the life of the child might be endangered by this indifference that

the keen sense of competition and rivalry holds out to entice the child, at all hazards, to come to school; it seems to me a shocking thing, you here in Glasgow allow a reward for good attendance, even although the attendance is not absolutely perfect—I think we allow eight or ten absences.

23120 You are wise. Now with reference to the Science and Art grants, you said, I think, that it was announced that these grants were to be withdrawn?—The day school grants.

23121. But in the Report of the School Education Department I see a correspondence beginning with a minute dated July, 1897, and from the minute it would appear that what is contemplated is simply a transfer of the administration of these grants from the Science and Art Department to the Education Department; it simply is not proposed to cancel the grant?—But the Science and Art Department have begun by cancelling them.

23122. Perhaps I do not take in all the bearings of this. There is an official letter here from the Education Department, in which, if I understand it rightly, they say that the grants for the present financial year, ending March, 1898, will be accounted for by the Science and Art Department. "The grants for the forthcoming Session," that is, for 1898-99, "will be transferred to this Department," that is to the Education Department?—Yes, but you will see, my lord, that they have already cancelled the grant.

23123. So far as I can see they have only announced that it is to be given in future by another body, that is, by the Education Department?—I don't know what the Scotch Education Department may do, and we are still trying to get them to alter

the decision, but the decision as at present intimated is that we shall get no grants this year for these different classes.

23124. Let me read this for you.—"It has been determined that the administration of the grants to schools and classes of Science and Art in Scotland shall be transferred from the Department of Science and Arts to the Department," that is, to the Education Department. "During the current financial year, ending March 31st, 1898, the grants for Science and Art Schools will be accounted for by the Science and Art Department, in the vote for which Department they have been included." Surely that money has been voted for you by Parliament?—Yes I should hope we will get it.

23125. I dare say you will, as you are Scotchmen with us in Ireland I should not be so sure of it: Your difficulty is only for the current financial year? Mr. Alexander—I think you will find that they state this year the schools must be worked in accordance with regulations of the Science and Art Directory, and according to the new Science and Art Directory, our day classes are not reorganised.

23126. I think you may be safely trusted to get your own from them. There is just one other point. Have you heard it suggested that the kindergarten departments were doing harm in your schools, instead of good?—No, not at all.

23127. I dare say it would surprise you to hear that such a notion was suggested to us in Ireland by an experienced, intelligent, and, I may say, representative teacher?—Well, you will have evidence from one of our infant mistresses, and I have no doubt she will be surprised to hear that.

Mr. GEORGE W. ALEXANDER, S.A., Clerk of the School Board of Glasgow, continued.

23128. CHAIRMAN.—First as regards the cost of the centers, Sir John said that practically there was no cost in the way it was worked, but supposing you had to erect a room and find appliances and tools, what do you think you could erect a room for?—We have only erected one room especially for manual instruction, that has accommodation for fifty boys and cost £420—the room and benches, everything except the tools.

23129. Mr. HARRINGTON.—Do you mean fifty boys at a time?—Yes, fifty benches.

23130. CHAIRMAN.—That strikes me as being very cheap, because in a school we saw the other day, which only accommodated twenty-three, they said it cost £600?—You will see this building on Monday.

23131. As regards the cost of the tools; first of all can you tell me the cost per bench?—Our benches hold four or six?—The original benches held six, now we are making them for two only.

23132. What does a bench for two cost?—Somewhere about £3.

23133. As regards the tools?—This first centre—Delamater's—the first outfit of tools cost £88 for 50 boys, but that was a pretty liberal allowance. At that time we provided a large number of tools for each boy; that we now provide for several boys, the last workshop we fitted up had accommodation for 45 boys, and the tools cost £48.

23134. What is the annual cost of maintenance of a centre?—It is a little difficult for us to give you that cost with the exception of one center, this first center—the others have had fresh schools put into them and we have not yet earned a grant in them. But I can give you our report for the first center last year; the grant received from the Science and Art Department amounted to £190 9s. 10d., we paid in salaries of teachers—we have two teachers—£150, the cost of wood was a little over £30, 6d. drawing copies, pencils and rubbers, and so on, we had over £5, and for renewal of tools about £3; so brings it up to £170, showing a balance to the good of £20. Of course there is nothing put in for cleaning or gas.

23135. You say you paid two teachers; are they special teachers?—They devote their whole time to the work.

23136. Were they originally school teachers?—No, neither.

23137. They were artisans?—Yes.

23138. Do you think that is a better plan than training a school teacher?—We take the best teacher we can get at the time, the Board have not come to any decision as between the two kinds of teachers.

23139. The question of working in a centre like yours, does not arise as it would very often in Ireland, where the headmaster of the school would resent the intrusion of a stranger?—Before we had this center the first experiment was made in one school in a room fitted up for one school alone, and I am not aware that the teacher there made any objections.

23140. Now as regards science, Monsignor Malloy was going to ask you a question about the cost, can you tell us about the cost?—At the time some of the schools began to take up elementary science as a class subject, four or five years ago, the Board agreed to give an outfit at a cost not exceeding £10, and anything additional is supplied as the teachers want it each year, not to exceed £10 in any year.

23141. Do you get any help from the Science and Art Department?—Not in that way, these classes are not worked under the Science and Art Department.

23142. Rev. Dr. EVANS.—Have you any teachers under the Glasgow School Board who were trained in English training colleges?—I only recollect one at present—we had one who was trained in one of the London training colleges.

23143. Is that teacher a teacher of this manual work?—He is a lady teacher. There is a second, a gentleman, who was trained at the Day Training College at Leeds, but he is not doing any woodwork.

23144. Have you any teachers in the Glasgow schools who were trained in Irish training colleges?—Not to my knowledge.

Glasgow:
—
Oct. 22, 1897.
Sir John
Nelson,
Catharine,
Glasgow.

Mr. George W.
Alexander,
S.A.

Glasgow
Oct. 20, 1895.
—
Mr. George W.
Alexander,
Edinburgh.

23145. Do you know to what occupations the boys who receive manual training subsequently go?—I have been making some inquiry about that recently, but it was in a district where the most of them went into mechanical trades of one kind or another, and the headmasters were not prepared to say that the manual training had had any influence on them, they had not had experience enough of it.

23146. You could not give us an indication of the proportion that go to universities and go to professional ways of life?—I am afraid not without some further inquiry.

23147. Mr. HARRINGTON.—I think you said that £10 was about the cost allowed for apparatus for teaching elementary science?—As the maximum.

23148. MESSIAH MOORE.—In any one year?—Yes.

23149. Mr. HARRINGTON.—For one school?—Yes.

23150. How would that be divided—for instance, how much for physical apparatus and for chemical apparatus?—I am afraid I could not tell you that, because the teachers ask for what is required at the particular time.

23151. I suppose in some schools we may take it that a teacher would teach elementary physics and elementary chemistry, and perhaps a little botany?—Yes, he might, but the idea of the Board was not to have science taught in this way, not to have regular science taught, but more to have advanced object lessons.

23152. But he might teach a little of either of these subjects in an elementary way?—Yes.

23153. So for £10 your Board considered he ought to get sufficient apparatus for simple illustrations?—£10 a year.

Sir J. N. Cuthbertson.—He may get more next year, and in the course of years get £40 or £50.

23154. Mr. HARRINGTON.—What would be the smallest number of pupils in any one school?—I think we have one or two schools where there are about 300 scholars.

23155. Would he be allowed the same amount for apparatus as in a large school?—Probably we should make a little more inquiry before we granted a large requisition.

23156. CHAIRMAN.—Do you mean 300 scholars learning science?—No, the size of the total school.

23157. We have not got the average size of your schools?—From 1,000 to 1,200, the accommodation.

23158. What are the 300 you are alluding to?—These are one or two small schools.

23159. Mr. HARRINGTON.—Is this science teaching given invariably by the ordinary teachers?—Always by the ordinary teachers.

23160. What difficulties had you in the way of getting these subjects taught when the Board decided to introduce it?—You understand the Article 13a. 5 was introduced into the Code in 1895, and it was left to the headmaster to introduce science or not, and forty-one have introduced it of their own option; the Board have not applied any pressure.

23161. Is this form of teaching generally in your schools under the supervision of any particular inspector?—The Government Inspector, we have no other inspector here.

23162. Rev. Dr. EVANS.—No Science and Art inspector?—We have a Science and Art inspector.

23163. Mr. HARRINGTON.—Not for the elementary schools?—No, they don't visit them except for drawing.

23164. Mr. MOORE.—What is the duration of the learning college course?—Two years.

23165. Is it ever extended to the third year?—

Sir J. N. Cuthbertson.—They get the benefit of the university for the third year if they wish it, the best students.

23166. And in going to the university is it with a view to a degree?—

Sir J. N. Cuthbertson.—Yes, the object is a degree.

23167. Then there is a special course of instruction and these are examinations for that degree?—

Sir J. N. Cuthbertson.—Yes.

23168. Would you under the Glasgow School Board accept the services of a teacher in drawing who had not a certificate?—Oh, yes, we have taken on teachers who had not the full certificate, but the usual thing is that they have passed in three or four subjects, and they usually undertake to complete it, but the great majority of our teachers have some qualification under the Science and Art Department.

23169. MESSIAH MOORE.—In your system, the headmaster superintends all the classes of the school?—That is so.

23170. Does he himself teach any of the classes? Well, in some of the smaller schools the headmaster will teach pretty regularly, but in the larger schools he will only teach occasionally.

23171. His chief business is to superintend the school and look after the teachers in the performance of their work?—Yes.

23172. Is he generally a person who has passed through the usual stages of teaching?—As a rule, yes.

23173. So he has a practical knowledge of teaching?—Yes, he has probably been a pupil teacher, and assistant and second master as well.

23174. He is a man who has risen from below, rather than come down from above?—That is so in our system.

23175. I suppose then when application is made for money for apparatus, the application is made by the headmaster?—By the headmaster.

23176. He settles the requirements of the school according to his judgment?—Yes.

23177. Have you any list of apparatus drawn up, such as is usually published by the Science and Art Department, showing what the Board would be prepared to provide?—No, we have never drawn up a list of that kind here.

23178. Then is the headmaster quite free to apply for anything he wants?—He is quite free to apply, but it does not follow that he will get it.

23179. He knows by the experience of others what he is likely to get, and keeps his demands a little above that?—Yes.

23180. Do you think it would be useful, eventually, when you have had sufficient experience, to draw up a list of apparatus such as would be a normal equipment for any one school?—We have always gone on the principle of allowing our headmasters as much liberty and discretion in these matters as possible.

23181. I was told that the detailed programme under which the elements of science are taught, is drawn up by the master, but I was not quite clear whether this meant the headmaster, or the master actually engaged in teaching the subject?—Well, it comes to the Board from the headmaster; he is responsible for it.

23182. He probably has drawn it up in conference with the actual teachers of the subject?—That is so.

23183. Rev. Dr. WINNIE.—Your teachers are classified according to merit; for instance, under the National Board in Ireland we have first, second, and third, and first of first, and second of first, and so on, have you a similar classification?—No.

23184. Each class will have a fixed salary?—There is a scale of salaries for headmasters, second masters, third masters, infant mistresses, and assistants.

23185. What is the usual salary for your headmaster?—The scale runs from £200 to £500.

23186. The second grade?—A second master is paid from £120 up to £300, and recently the Board have increased that maximum to £350 in special cases. Of course that applies only to day work; the teachers may be employed in the evenings, and are paid extra for that.

23187. Most Rev. Dr. WALSH.—These salaries that you have now described are paid out of the general funds of the Glasgow School Board?—That is so.

23188. Not exclusively out of the Government grant?—No.

23189. The accounts of your School Board seem to show that the total income of the Board at present is over £300,000 a year?—Yes.

23190. Of that amount a considerable sum has to be paid for the purchase of land for schools?—That is so.

23191. I see about £60,000?—Yes.

23192. A considerable portion has also to be paid in interest on loans and repayment of loans; this comes to about £60,000 more?—Yes.

Sir J. N. Cuthbertson.—Allow me to explain, that is more theoretical than actual, our outlay for buildings and interest is £50,000 a year, not more, we get them all by loan, the interest is about £25,000 interest, and £25,000 for the repayment of the loans.

Witness.—I think, roughly speaking, that is about it.

23193. Well, say £50,000 or £60,000, then the expense of administration of the School Board work in Glasgow must come to a good deal, it seems to amount to £7,000 or £8,000 a year?—That is for salaries of officials.

23194. Then I see that the amount paid in salaries, I suppose to teachers, is £150,000 a year?—Yes, that is for both day and evening schools.

23195. These are the principal items of expenditure; but I see you also spend about £11,000 or £12,000 a year on fuel and lighting for the schools?—Fuel and lighting and cleaning, that includes the salaries of the janitors.

23196. The janitors seems to be very important functionaries in the Scotch town schools. Now, on the other hand, as regards masons, your whole Parliamentary grant from the Education Department is only £70,000 a year?—Yes.

23197. So that it would not do much more than pay one-half of the salaries that the teachers get?—Not much more.

23198. If you spent the whole of the Parliamentary grant in paying the teachers you would be only able to pay them half their present salaries?—That is so.

23199. You also get from the Science and Art Department £20,000 a year, and the fee grant comes to about £30,000?—Yes.

23200. I see you receive about £11,000 in school fees, I suppose that includes evening schools?—Day and evening. There are only two day schools that are not free, a boys' school and a girls' school, and we charge fees in the secondary departments.

23201. How many evening schools have you?—Thirty-one.

23202. And the Parliamentary grant is available for those?—Yes.

23203. I suppose that in the evening schools special attention is paid to practical subjects?—We have all kinds of evening schools; and several give attention to the more practical subjects.

23204. The cost of maintaining the schools in your Glasgow School Board is £2 7s. 7d. per scholar?—That is so.

23205. Does this mean that the total cost of the educational instruction you are giving in Glasgow is £2 7s. 7d. per head?

Sir J. N. Cuthbertson.—Not including buildings.

23206. Am I right in taking it that at this £2 7s. 7d. a head, £1 17s. goes in salaries for teachers, and 10s. for other expenses?—That is so.

23207. And am I also right in taking it that of this £2 7s. 7d. a head, less than half comes from the Parliamentary grant, £1 1s. 7d. a head?—Yes.

23208. And 13s. 3d. comes from school fees?—Yes, including the grant in relief of fees.

23209. I see you have expended over a million sterling in building schools?—That is, between the cost of sites and building—£318,683 for sites, and £730,108 in buildings?—Yes.

23210. And the cost of the sites per unit of accommodation is £4 8s. 1?—Yes.

23211. And £10 per unit of accommodation is the cost of the erection of the buildings?—Yes.

23212. So that you allow a total cost per unit of accommodation of £11 8s. 8d.?—Yes.

23213. Of the total income of the Board a very considerable portion is derived from the School rate of the city?—That is so.

23214. The city, I think, taxes itself to the amount of about £100,000 a year in order to keep up this system of Board Schools?—Rather more than that.

23215. I have the figures here for the last three years. In 1894 it was £95,000; in 1895 it was £99,000; and in 1896 it was £109,000. The amount is large, and it is steadily increasing, which seems to show pretty plainly that the people are satisfied with the kind of instruction that is given, and with the results that are attained. The rate at present is, I think, over 10d on the £?—It is 10½d.

23216. Each penny in the £ with you brings in £11,000 a year?—Yes.

23217. Messrs. Mooney.—Do they grumble at the rate?

Sir J. N. Cuthbertson.—We have been extremely well supported by the public. I never heard any serious grumbling. A rate is always grumbled at; but not the school rate more than any other.

23218. Mr. HARRINGTON.—Messrs. Mooney asked you whether there was any printed list of the apparatus required in your school, and you said there was not; could you give us any written list of what you have in a well-organized school where elementary science is taught, and the cost of it?—Yes, I shall be very glad to give you that, we have a stock-book in each school.

23219. Rev. Dr. EVANS.—I should like to know if you gave up any subject on your programme that had been previously there in order to make room for manual instruction?—Not that I am aware of.

23220. The other subjects have not been curtailed in any way?—Something must have been curtailed, but that was left to the headmaster. The majority of the classes meet from either 9 to 11 or 3 to 5, which means an extension of one hour, as the schools usually close at 4.

23221. But, practically, there has been no curtailment, they find time to get it all worked in?—Yes.

23222. And the other subjects have not suffered?—The headmaster's opinion is that the other subjects have benefited.

23223. Rev. Dr. WILSON.—What are your school hours in Glasgow?—Usually from a quarter past 9 to a quarter past 12, and from a quarter past 1 to 4 o'clock, there is an hour for dinner, and there are short intervals in the forenoon and afternoon besides, five or ten minutes.

MISS GRACE PATTERSON, Member of School Board of Glasgow, examined.

23224. CHAIRMAN.—I think you can tell us something about cookery, but will you, please, tell us first your official position?—I am a member of the School Board and Convener of the Committee on Industrial

Classes—industrial classes comprising cookery, laundry work, and sewing in the day schools.

23225. To begin with cookery—will you tell us how cookery is taught in the schools?—By demonstration

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and by practice lessons: kitchens have been fitted up by the Board in forty-eight centres for the teaching of cookery; fourteen of those kitchens are centres for thirty-three of the schools, and in the thirty-four remaining schools, the scholars of those particular schools receive their instruction.

23226. Are those kitchens used for any other purpose?—Sometimes we give permission that they should be used for other purposes when cookery is not being taught, we dislike doing so, but sometimes when there is great pressure in the school at the end of the school year permission is given. The head-master has to apply to the Board.

23227. Has there been any instance where the room in which manual woodwork is taught is used on other days for a kitchen?—Nothing of the kind exists here.

23228. Do you think that would be a good plan or an objectionable plan?—Very objectionable, indeed; a cookery centre has to be well fitted up and kept exceptionally clean and in good order, we consider the lesson in cookery should be a lesson in cleanliness and tidiness.

23229. What is the extent of the work?—The number of scholars under instruction in the school year ending 1896 was 7,781, the number of girls for whom grant was received, was 5,811. There are two courses permitted by the Scotch Code—a course of forty hours in the year, for which we receive a grant of 4s. a head. We received that grant last year for 6,367 scholars. Then it is also possible to give a course of twenty hours in the year. The scholars working in that class are a smaller number, and we received a grant of 2s. for 444 scholars.

23230. What do you consider the best size for a class?—The Scotch Code permits twenty-four to be taught together in a practice class; I consider that much too large a number; twelve or fourteen, I consider, is the best number.

23231. What is the age at which girls begin to be taught?—Sometimes they are very young. We think that cookery requires to be taught to the girls in poorer class schools in standard 4. The Board like the girls to have two courses if possible. We leave it to the head-master to decide whether cookery will be taught in standards 4 and 5 or in 5 and 6. A great number of our girls leave school at the end of standard 5, therefore in many of our schools they receive instruction in 4 and 5. In the year for which I took these figures instruction was given in 4 and 5 in forty-two schools, and in twenty-six schools in 5 and 6.

23232. What is the length of the lesson?—Two hours.

23233. Do you think that twenty lessons is sufficient?—I do not think so, but the Board arrange that each scholar shall, if possible, have two courses of cookery in different years of twenty lessons each.

23234. Would you agree with the opinion which was expressed to us by one instructor of cookery in Ireland—teaching, I may say, in a technical school and not in an elementary school—that at the end of twenty lessons her pupils were only beginning to grasp the subject?—I quite agree with that, I should prefer that the girls attended the cookery centres for one attendance a week during the whole year.

23235. How are the teachers trained?—We have two schools of cookery here in Glasgow. I am the secretary of the Glasgow School of Cookery and Domestic Economy, which has existed for twenty years and therefore I can give some information as to the training there. The Glasgow school belongs to the National Union for the Technical Education of Women in Domestic Sciences—probably you have found already other schools belonging to that same Association. We have one standard of attainment in all these schools, and joint examinations. There are several English schools belonging to the Union, and all of them follow pretty much the same line of training. Of course the English Department has laid down

certain regulations for the training of teachers; the Scotch Department, too, has issued regulations, not so definite as the English Department, and this school of ours is worked in connection with the English Department. The time required for the training of teachers of cookery under the English Department—a week of the teacher who is to teach in schools receiving Government grants—is six months. That is the least time accepted, and a certain amount of that time has to be devoted to practice in teaching children.

23236. What is the teacher before she begins teaching cookery—is she an ordinary teacher?—As a rule not, the School Board of Glasgow started with the idea that it was best to train the ordinary teacher in cookery, but we found that cookery instruction by ordinary teachers was not practicable in our large schools. Girls with a good general education come forward to be trained as teachers.

23237. Beginning at the beginning without having had any previous experience?—Yes, and of course one of the chief difficulties is to get them sufficiently trained in teaching, I don't think six months is sufficient.

23238. Is the social position of the ordinary teacher under your institution that of the ordinary cook or something higher than a cook?—Oh, always something higher—an ordinary cook could not possibly pass the examinations. We require teachers to have a very thorough knowledge of physiology, to thoroughly get up the processes of digestion, nutrition, circulation and respiration, and to have a thorough knowledge of food and its functions, the elements found in the human body, waste and repair, the composition of air and water, and all these subjects. They have to pass three theoretical examinations, and also practical examinations before they obtain their diplomas.

23239. How are the materials provided for cooking in the schools?—The teacher draws up first of all an order, which she sends into this office, for materials to be provided before the first lesson, and each day, before leaving her kitchen, she leaves an order for the perishables to be provided for the next lesson, and these provisions are ordered by the janitor's wife.

23240. After the materials have been cooked what becomes of them?—They are sold to the scholars or to the teachers in the school. We request the teachers of cookery to encourage the ordinary teachers to take dinner in the middle of the day, of course that provides a larger quantity of food for the scholars to cook.

23241. Is that every day, or only on certain days of the week?—On certain days of the week only; we mainly depend on the scholars purchasing the food.

23242. Is there much loss on the materials?—I think as a rule there is no loss. The food sold does not do anything more than cover the cost, and sometimes it is with difficulty, but as a rule there is no loss.

23243. Is the teaching of cookery nearly self-supporting, or have the salaries to be provided afterwards?—Yes, it is nearly self-supporting, but only a small sum provided for wear and tear and fitting up of centres. I can give the figures for last year. Expenditure on salaries of teachers, £283 6s. 10d., payments to janitor's wife, £120 17s. 6d., provisions for cooking £451 8s. 11d., replacement and repair of utensils and prices—we give prizes for regular attendance—£305 13s. 7d.

Mr. Alexander.—The prizes are now to be discontinued.

Witness.—Balance paid into the school fund to meet cost of stoves, utensils, &c., £43, but that does not cover the expenditure.

23244. What is the loss on the cooking?—We consider it about covers the cost.

23245. I mean, including the salaries of teachers, what is the cost to the ratepayers of the education given in cookery.

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Mr. Alexander.—Last year the balance-sheet shows a balance to the good of £63, but we cannot keep the account for gas, for instance, separate.

33246 But the £63 is not after paying salaries.

Mr. Alexander.—Oh, yes.

33247 Do you mean that the sale of materials pays all that?

Mr. Alexander.—That and the grants.

Witness.—The total grant we received this year was £1,317 3s 6d.

33248 Therefore it cost the grant money about £63.—Yes, after paying the teachers' salaries and working expenses.

33249. What would be the total number of pupils taught during the year?—7,781.

33250. How much per head would that be, how much per child?

Mr. Alexander.—About 3s. 6d. a head.

33251. Mr. HARRINGTON.—The grant represents the total cost of the teachers' salaries and the material for cooking as recovered from the pupils?—It is, as far as possible.

33252. So that the grant pays for the teachers' salaries and gives you a small balance over, which stands against the outlay on gas?—Yes.

Mr. Alexander.—And it covers the payment to janitors' wives.

Witness.—The working expenses, we may say, but it does not cover the replacement of stoves, utensils, and gas.

33253. You don't find that forty hours in the year are quite sufficient?—I don't think it is sufficient, hence our reason for teaching in standard four in certain schools, the very poor school where we know girls will leave in standard five.

33254. You would like to have them continued two years in cookery?—I should like to continue the domestic subjects all the year round. I think in England the girls' subjects are got on with less difficulty than here.

33255. You could not possibly have it so arranged that it would be taken after the other school work was finished?—The girls would object. Headmistresses have certainly endeavored to get us to grant them permission to have the cookery after school hours, but the pupils object to that.

33256. You could not get any plan to get these girls to come for the cookery lessons after they had left school?—Yes, we have made a small experiment here during the last two years, the Board opened two centres, into which we used to induce the girls to come after they had left school. In those centres they were asked to promise to remain with us for six months. One half of the day they got industrial subjects alone, cookery, laundry work, and some instruction in dressmaking—dressmaking by a simple system of cutting out—and each girl making a dress for herself.

33257. Then at the cookery school they have a joint examination and a joint certificate?—Yes.

33258. What other school in Scotland belongs to that Union?—No other. The Edinburgh school did belong to the Union at the beginning but only remained in it for three years.

33259. Do you know what might be the reason for leaving the Union—did they regard the standard as too high?—I think they did, I think they thought the training was unnecessarily long, but I think they have now fully realised that instead of being shortened it requires to be lengthened, I think the Edinburgh school has some idea of joining one of the Unions again.

33260. You said you worked according to the scheme of the English Education Department or in such a way as to satisfy the requirements of the English Department?—We do.

33261. The Scotch Department has some requirements on the subject of the instruction of cookery teachers; you evidently don't accept those as satisfactory?—I think those requirements are

insufficient. The Scotch Department requires 250 hours to be devoted to training, spread over a period of not less than four months. The English Department requires six months, and during the six months twenty hours a week must be devoted to the training.

33262. And you think 250 hours spent in training is not sufficient?—The English Department requires 300 hours—a very much longer period. Of course the great difficulty is in training these young women to teach. The cookery is comparatively easy.

33263. Might there not be a difficulty in getting a supply of teachers who had gone through such a long course as that required by the English Education Department at present?—You mean a difficulty in getting girls to come forward to be trained?

33264. Well, such a supply of cookery teachers as would supply our schools in the meantime?—We don't find any difficulty.

33265. Then, leave all your cookery teachers gone through a six months' course?—Yes, of course some of them were trained about ten years ago, and the training was shorter at that period than it is now; but I consider some of them have made up for that by experience.

33266. Might not that apply to teachers who had satisfied the smaller requirements of the Scotch Department?—These were only issued a short time ago, and I think we are all feeling—those who have to do with the training of teachers—that such teachers require more science and theoretical training than they have had up to this time, and should be encouraged to take training certificates under the Science and Art Department.

33267. But that would be a point for each cookery school to arrange for itself what the nature of its curriculum should be. What the Department insists on is simply the length of the training and the amount of practice in teaching?—Yes.

33268. Well, while it might be a very desirable thing to have the six months' training you speak of, might it not be advisable in the meantime to accept teachers with a smaller qualification until we have had time to have a class of cookery teachers trained?—I would not advise that certainly.

33269. I mean to say not to make it imperative in the meantime, but after some years?—I would not recommend that. There are plenty of teachers to be had.

33270. Do you find that the teachers in country districts who take cookery are well trained?—Perhaps not in country districts, but training is now given in normal colleges, and I believe that is accepted.

33271. While it is possible for a School Board such as yours to obtain qualified teachers, if cookery is to be taught in less favoured districts we must accept a lower qualification?—In that case I would employ a trained teacher. Some of the teachers here do qualify in cookery, and in a country district the Board often cannot afford to have a specialist.

33272. There are other schools in cookery besides yours?—Mrs. Black, also a member of the School Board, has a school.

33273. That school issues certificates on a shorter course of training than yours?—I understand it does.

33274. Mr. HARRINGTON.—Do you consider that cooking should necessarily form part of an elementary education for girls?—I certainly think so. I think the girls get very little training in these subjects at home, and I think the domestic subjects are of more use to them than the specific subjects in elementary schools.

33275. What you mean to say is, if they did not get them at school, they would not get them at all?—Yes. In our schools, where we have secondary departments, the girls don't get much of this training, because the girls

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think, and the parents think, they can get it after they leave school.

23276. I suppose it is the general opinion in the country that cooking should form part of an essential elementary education for girls?—Certainly.

23277. Is the apparatus employed of the kind that the people themselves have in their own homes, or of the rather elaborate kind that we have seen in many places?—We endeavour to make it as simple as possible, but we fit up our centres for evening teaching of adults, and, perhaps, we have been a little more extravagant on that account than if we had been teaching children alone.

23278. I refer to the heating apparatus we have seen in Edinburgh?—As a rule we have a Curren cooking range and a gasoven.

23279. Mr. MOLLER.—Are the Glasgow cookery schools associated in any way with the Liverpool National?—Yes; it is the same Union.

23280. Miss Calder presides over it in Liverpool?—Yes.

23281. And, if I mistake not, the school in Dublin is associated with that Liverpool school; and, therefore, on the same lines with your Glasgow school?—Quite on the same lines. We have joint examinations, and the same examination.

23282. It is a six-months' course in your training school?—Yes; from six to nine months.

23283. Is there any payment made by those attending?—Oh, yes, the scholars pay for their instruction eighteen or twenty guineas for a full diploma. That includes high class cookery, which is not necessary for elementary school teaching, but we think it is an additional advantage if a teacher who is to teach in the public schools takes all the branches; but she can teach for fourteen guineas. Then we have a special certificate for trained teachers. The payment for that is only six guineas, because we don't have to train them in teaching.

23284. What course does the ordinary teacher of a school pursue if she desires to enter your cookery school?—We grant a special certificate to her, saying that less attendance and a less fee will be required. We don't call it a diploma, we call it a certificate; and the fee she pays is six guineas.

23285. But still it qualifies her to give the instruction?—Yes.

23286. I think you mentioned twenty lessons of two hours each, would that include the demonstration lesson?—We usually give ten demonstration lessons and ten practice lessons to each scholar.

23287. Do the same pupils receive instruction in the demonstration as in the practice lesson?—Yes; we sometimes take three practice classes together to demonstration, and then divide up those scholars into groups of twenty-four each.

23288. May I inquire with regard to your school year?—It is the calendar year or the financial year?—The school year terminates at the time of the Government inspection. Each school has a different time.

23289. At the termination of the course of twenty lessons, will cookery be abandoned altogether when the visiting teacher has left?—Entirely; and the course begins next year. Sometimes they get a third course in another year, only twenty lessons in each year.

23290. Then some of the girls will not receive instruction in cookery at all. Will that happen?—No; because when we think they will leave school early we take them at standard four.

23291. Do you not think it a disadvantage to close the cookery lessons at the end of twenty lessons, and have nothing of the kind going on for the remainder of the school year?—Most distinctly I do. I should prefer to have it going on the whole year, but where we have mixed classes it means a perpetual disruption of these classes all the year, a small

number of girls being so frequently withdrawn from the ordinary work.

23292. Who tests the proficiency in the cookery?—It is not tested except by visits of members of the School Board, or officials from those offices. Our grant is paid on attendance, and a careful record is kept of the attendance by the cookery teacher.

23293. MONTAGUE MONTAGUE.—How are the parents of the pupils disposed towards the teaching of pupils in the elementary schools?—I think very favourably, indeed, and I think the children enjoy it. Sometimes we find that the children attend on a Friday afternoon, (when there is apt to be a lax attendance), better on the day of cookery than on an ordinary occasion.

23294. Did you find any opposition on the part of the parents when it was first established?—I think we did not.

23295. I think you said you have no difficulty in disposing of the articles that are cooked to the pupils and the teachers?—Not quite so difficulty, but we find that, on the whole, we can make the materials cover their cost. If the teachers take dinner in school, for instance, that is a great help.

23296. If they take dinner in the school they purchase the dinner that is cooked in the school?—Yes.

23297. And if the pupils purchase the dinner do they also eat it in the school?—As a rule they do, sometimes they carry it home with them, if they purchase complete dishes, but often the food is divided into small quantities for which they pay a penny a twopenny.

23298. I suppose it is cheaper and better than it would be able to get at home?—In some instances very much better.

23299. REV. DR. WILSON.—In the evening schools do you admit other girls than the pupils of the ordinary day school?—The day school pupils and evening school pupils are a thing apart. We teach cookery to the ordinary scholars in the evening schools and also have public lessons which anyone can attend.

23300. You receive other girls than those in attendance at the day schools?—Yes.

Mr. ALEXANDER.—They are quite open to all.

WILSON.—I thought you meant did the day school scholars return in the evening for lessons; as a rule they do not.

23301. Are these evening classes largely attended by outsiders?—Sometimes they are more attended, and other years less; we find they come and go.

23302. MOST REV. DR. WALSH.—What test is applied to your teachers before they are appointed to teach cookery?—We have examinations, theoretical and practical.

23303. Into what do they examine, is it as to the ability of these ladies as cooks, or as to their capacity for teaching?—First of all there is a very complete and careful examination on the theory: they have to get up the processes of digestion, nutrition, circulation and respiration, and a very thorough knowledge of physiology, and we recommend students to take certificates of the Science and Art. We don't make it compulsory, but recommend them; and also certificates for hygiene.

23304. My question is about the examination. Is it held with a view of testing the knowledge of these ladies in those various subjects, or with a view of testing their capacity as teachers of those subjects?—We have two separate examinations, theoretical papers are sent to us by the examiners who have charge of that part of the work and are returned to them and marked by them, then we have visiting examiners to hear the students teach before them.

23305. That is to hear the candidate teach?—Yes.

23306. And in what school do the candidates practice this teaching before they obtain a certificate?—They practice in the school in which they are trained, we have classes of the public for them to practice upon, and also classes of children so far as we can manage. I may mention the teaching of children has been a great difficulty up to this time, all the

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children attend the Board schools and are given lessons in school hours, and it is a great difficulty with us to get their attendance out of school hours, but we are about to make an application to the School Board for a special arrangement.

23307. The test you refer to applies to cookery; you have a test of her power of teaching it.—She has to give a test previous lesson before the examiner.

23308. The pupils being the pupils of an ordinary school?—Yes.

23309. CHAIRMAN.—Now I will ask you about the laundry; what centres have you for laundry work?—Seventeen centres at which girls from twenty-eight schools receive instruction.

23310. Are the cookery teachers there who also teach laundry work?—I think in every case.

23311. What are the materials?—The girls are asked to bring their own clothing from home, pinfores and other articles, sometimes a few articles are supplied by the teachers, but the Board's rule is that the girls should bring their own clothes.

23312. What system do you follow in the lessons; do they come for a week and wash for the week consecutively, or do they come on certain days spread over an interval of time?—They attend once a week as a rule during the course.

23313. What is the length of the course?—Twenty hours, and the lesson of two hours, so there are ten lessons in the course.

23314. You never tried the plan we found tried at Burrows-Furness of having a class a whole week, and having another class next week, and not having the first class again for a long period?—I am afraid the ordinary teachers would object to that very much indeed, they would not like to have the scholars withdrawn for a whole week from their work.

23315. You think that it would interfere with their work more to take them away for a whole week, than to take them away for an hour during a course of twenty hours?—I think so.

23316. Is there was not that objection which course would you prefer?—I would certainly prefer the continuous course, but it would interrupt every class that goes on during the week.

23317. For one week in the year, you think that is a difficulty that could not be overcome in Scotland?—I don't think the teachers would meet us in that.

23318. How are the grants provided?—The grant is 2s. per scholar for twenty hours' instruction, arranged in ten lessons. The number of scholars under instruction in this year of which I am speaking was 338, and the number of pieces 190. The Board have arranged that laundry shall only be taken in the third year of the girls' instruction in domestic science, cookery the first and second year, and laundry the third year; consequently very few girls get instruction in laundry work—they have left school before that course comes on.

23319. What is the cost of a centre?—Do you mean in fitting up the centre?—It is about £48.

23320. Have you more centres than one?—We have seventeen centres in which the girls from twenty-eight schools receive instruction.

23321. Now, turning to the subject of needlework, how is needlework taught?—Needlework is a compulsory subject under the code, and taught according to schedule 3 of the Scotch Code by the ordinary teachers of the school.

23322. How are the materials supplied?—The materials are supplied by the Board, the garments because the property of the scholar when paid for, we don't oblige them to buy the garments, but as a rule they do.

23323. Do they wear them when purchased?—I think so; we very seldom make garments of a large size these scholars require for themselves.

23324. You don't find the objection made that we have heard in Ireland, that the older girls, although they were willing to make dresses and articles for their younger sisters, objected on the ground of fashion

to make them for themselves?—We have not found that here at all. I don't think we give so very much choice, the teachers lay down that a certain garment must be made in the standard, and the scholars must conform to that.

23325. What are the grants for needlework?—1s. per head on the average attendance of girls.

23326. What classes have you in housewifery and domestic economy?—We have not yet attempted anything which might be called housewifery, but in order to make preparation for something of the kind we have had special classes in three different centres. Into these centres we invite the girls who are leaving schools, to come, some of them in standard 6 and 6-4th, and we there give instruction in laundry work, in cookery, and in dress-making, and making up of dresses. These classes are held in ordinary school-rooms, therefore we have been unable to teach housewifery so called—the management of the house.

23327. Are these evening classes?—Day classes.

23328. And what do you teach under the head of domestic economy?—The Scotch Code requires that some instruction in domestic economy should be given concurrently with cookery.

23329. You, you have already explained that?—Yes, we ask the teachers to give the children instruction in food, its composition and uses, and to teach them generally how to spend money to the best advantage, how to market, and the prices of the different materials they work with. Domestic economy is taken as a specific in twelve schools at present, but that is nearly book-teaching.

23330. Mr. Dr. Evans—I believe your cookery teachers are usually qualified in laundry work?—They are.

23331. And do they teach in the laundry work?—If asked to do so. The laundry teaching under the School Board is very much less than the cookery teaching, therefore we don't always require their services for that subject.

23332. But their services are valuable?—They are.

23333. The needlework is taught according to the code by the ordinary teachers?—It is.

23334. Do any other teachers give instruction in needlework but the ordinary teachers?—Not during the day, but in the evening classes there are a few who are not the day teachers.

23335. Who inspects the needlework?—Her Majesty's Inspector.

23336. There are no inspectors then appointed by the School Board itself?—No.

23337. No ladies advise the School Board as to the conditions of needlework instruction?—No, Mrs. Black and I make a point of seeing the needlework very thoroughly every year, because we award prizes, and we make occasional visits all the year round.

23338. I should feel extremely obliged if you could aid us to a proper distinction between housewifery and domestic economy?—I may say housewifery is domestic economy in a practical form. I have been in London during the last ten days and inspected the centres there, and I found that besides learning the theory of household matters the children are shown practically how to do housework, how to clean rooms and make a bed or air a room, and I think that is very valuable, because our book teaching just passes out of their minds immediately.

23339. You have experimental classes?—Yes.

23340. Will you kindly indicate what sort of experiments you conduct?—First of all an experiment as to whether we are able to get the girls to come back to school for six months after they have left school, for the purpose of continuing their instruction in domestic subjects. I find as a rule that I can get back perhaps thirty or forty scholars in a large school, who attend fairly well until the end of the course, and the Board are encouraged to think they may extend this teaching, and I wish, to extend it in special buildings for that purpose.

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23341. Mr. SMITH.—Do these girls receive instruction in any other subject besides what you call domestic subjects?—None whatever, because we are teaching in the ordinary school, in the ordinary class, room, and it is not possible to do any more than that, hence my desire for special buildings.

Mr. Alexander.—Yes, but you are giving them instruction in ordinary subjects—you are giving them revision!

Witness.—Yes, we are giving them revision: it was suggested that would be a useful experiment.

23342. Do these girls attend all day?—One attendance is for revision of the ordinary subjects, the other for domestic subjects.

23343. CHAIRMAN.—What do you call revision?—Going over the work of the standards again, performing their composition, writing and reading. These things more especially, I find to be very useful.

23344. Mr. SMITH.—You think that giving special attention to the domestic subjects induces pupils to come to those schools, who might otherwise not continue at school?—The pupils whom we have induced to come back would certainly have left if we had not had those classes.

23345. So from the point of view of their ordinary education it is advisable to have these classes provided for them?—Yes, and they certainly would not come back for the revision of the ordinary work alone, but they get that in at the same time.

23346. You give that in addition to giving them instruction in domestic subjects?—We do.

23347. You yourself think that is a very useful line of instruction, that might be developed with advantage?—I think most necessary.

23348. You also express great dissatisfaction with the teaching of domestic economy from books?—Certainly, but I think it is better than nothing at all.

23349. But it would be advisable, as far as possible, to replace the teaching from books by this form of practical instruction you speak of?—Certainly.

23350. And for that purpose you would have the children taking these domestic subjects after they had more or less completed their ordinary school course?—I would prefer that.

23351. After they had finished standard five?—I would prefer that if we got them back for a certain period.

23352. And if you found you were able to extend those classes, make them more general than at present, you would be able to have domestic economy out of the ordinary school curriculum and teach domestic economy practically in these special classes?—We would aim at that.

23353. We might call the practical side of domestic economy housewifery?—Yes.

23354. You have the same teachers teaching cookery and laundry work?—As a rule we have.

23355. And they are all specially trained on the lines you have already described, having a good knowledge of physiology and kindred subjects?—They are.

23356. Even supposing you continued to teach domestic economy in schools outside these practical classes would it be possible to have the instruction given by these specially qualified teachers?—I think they would have to take some practical lessons in housewifery.

23357. I am speaking of the possibility of having all the domestic economy instruction that is given in schools, given by your cookery teachers, who have a special scientific knowledge of what we may call domestic economy generally?—There are some things in house management that they would require to think out and systematise, and probably they could do that for themselves.

23358. Generally you would have a system by which you would replace book learning by special practical teaching at a more advanced age?—Yes.

23359. Mr. MOLLOY.—Is the certificate for cookery

combined also with laundry work?—The certificates are quite separate, the training may be given concurrently or separately, and the examination at once is quite separate and the diploma quite separate.

23360. The same person may not have the two certificates, it may so happen?—Yes.

23361. These where you have to introduce laundry work and you have a special teacher for cookery, you must get a special teacher for laundry work?—Yes, or the cookery teacher must qualify in laundry work.

23362. You mentioned out of 238 scholars examined 190 passed in laundry work, who conducted the examination, that looks like an individual examination?—We receive the grant not for examination at all, but for attendance, and the scholars for whom we did not receive the grant had not made the necessary attendances.

23363. There was no test otherwise than an attendance?—No.

23364. With regard to needlework what time is devoted daily to this subject?—It varies in different schools from three to five hours a week; in some schools a lesson is given every day, but as a rule five hours a week is the time.

23365. In the case of these special centres, is it for girls who have left school or are leaving a school?—Who have left school and been induced to return.

23366. Do these come to be recognized pupils of the school, are their names struck off the registers?—No, they continue to be recognised in the attendance roll.

23367. But they would only attend for a limited period of the day?—They attend all day, one part of the day being for revision of ordinary work and the other part being for domestic subjects.

23368. And the ordinary work being literary subjects?—The standard subjects, I think it is very necessary to work up their composition, spelling, writing, and reading.

23369. How long would that course of instruction continue?—We ask them to attend for six months, we don't insist on their attending longer, but they must promise to attend for six months before they join the classes.

23370. If they happen to be proficient in literary subjects would you direct their attention to the other practical subjects?—I certainly would.

23371. The teacher has an option?—Well, no, we have small numbers and we have to make special arrangements for these children at present, because we are teaching in an ordinary school.

23372. You find that system of instruction very valuable?—Very valuable indeed, and I would extend it to all the scholars if I possibly could.

23373. Most Rev. Dr. WATSON.—You spoke of a special difficulty in the Scotch schools, that would stand in the way of the children being taken away for a whole week at a time for the laundry work?—I think the teachers would very much object to all the classes being interrupted: they would object more to that than to having them absent on one day at a particular time for ten weeks.

23374. The withdrawal of the children for laundry work always involves some difficulty, as it involves an interruption of some kind to the work of the class?—Yes.

23375. And here in Scotland that difficulty is specially felt from the fact that the boys and the girls are taught in the same class?—It seems to me that it is increased here in Scotland: where there are girls alone in a class, all the girls can be disposed of and the teacher can make arrangements to have them all employed in the same manner at the same time.

23376. Is your difficulty then mainly based on the fact that in Scotland your classes are mixed classes, I mean, classes with a mixed attendance of boys and girls?—Speaking generally it increases the difficulty, of course there are schools in which we have large attendances, where the boys sit in one class room

and the girls in another, and where that difficulty does not arise.

23377. Is it the practice to divide the pupils of a given standard into two classes, one for boys and one for girls, where the number of pupils in the standard is sufficiently large?—We leave it entirely to the headmaster.

23378. Your particular difficulty, however, arises largely from the fact that the boys and the girls do attend the same school?—I don't say largely, but it is a greater difficulty here than in England on that account.

23379. But if the girls were in a separate school the difficulty would not arise?—I think the girls' attendance for these subjects would be very easily arranged.

23380. You said, I think, that in reference to the laundry instruction, the grants are made on the average attendance?—

Mr. Alexander.—Not on average attendance in cookery or laundry.

Pleasant.—It is for sewing, grants are paid on the average attendance; in cookery and laundry it is on the actual attendance.

23381. But whether it is average attendance or actual attendance, the grant is paid on the attendance, and not on the result of any examination of the pupils individually?—Yes.

23382. There is, I suppose, an examination of the children, or at all events an inspection of the school?—There is an inspection of the school.

23383. And the grant, I assume, would not be paid if in the judgment of the inspector the classes had not been satisfactorily taught?—I don't think the inspector ever looks at the cookery teaching.

23384. Then is the grant for this branch of school work made irrespective of the nature of the teaching, irrespective, that is, of whether the teaching is good or bad?—That is so as regards cookery and laundry, not as regards the needlework, the inspectors look at all the needlework.

23385. Then are we to understand that in Scotland, under the Science and Art Department, or whatever authority has to do with it, this grant of public money is given no matter how badly the work for which it is granted is done?—The inspectors as a general rule make inquiry as to the qualification of the teacher, and ask the headmaster how the work has been carried out, and inspect the cookery centre, to see whether the fittings are sufficient, and satisfy themselves of the attendance of the scholars.

23386. But all this seems to be mere hearsay evidence; they ascertain one thing from the headmaster, and another thing from somebody else, and then the public money is given out?—

Mr. Alexander.—I think occasionally if an inspector finds a cookery centre is going on he does have a look at it. I have a recollection of an inspector writing on cookery in one of his reports.

Pleasant.—I think that at the beginning of the teaching of these subjects there was some inspection of it; Dr. Kerr, who was our inspector then, often insisted on the lesson being given before him.

23387. Mr. STRATHGIRN.—Is there not this difficulty that the cookery class only goes on for a part of the year, and at the date of the inspector's visit, which is a fixed date, there might be no cookery class going on?—That is so.

23388. And it would not be possible for him to inspect classes not in existence?—That is so, but at times an inspector has asked for a cookery teacher to return and gather her class in the school, and he has heard her lesson.

23389. And also the inspector may at a visit without notice inspect the cookery class and see the methods of teaching?—Certainly.

23390. And in every school he is asked to report as to the qualification of the teacher?—Yes, the Code requires that.

23391. Most Rev. Dr. WALSH.—But it comes in the end to this, that the Code does not require as a matter of necessity that there should be any actual evidence before the mind of the inspector that the teaching is satisfactory?—Yes.

23392. The inspector may or may not happen to look for such evidence, but whether he does or does not, the grant is paid?—Yes.

23393. Mr. STRATHGIRN.—The only points are that there must be a properly qualified teacher, the teaching must be conducted under the management of responsible persons, such as the School Board who certify that the work is done, and that they make satisfactory provision for the teaching?—That is so.

23394. And in addition to that the inspector may check the genuineness of this teaching by making a visit without notice?—Certainly.

23395. Rev. Dr. EVANS.—Does the same provision apply to any other kind of work?—To laundry work as well as cookery.

23396. Most Rev. Dr. WALSH.—As far as the manager's testimony is relied on, that, of course, is hearsay evidence too, so that we have hearsay evidence relied on all round, from the manager as well as from the teacher?—I must leave all that to the inspector present.

23397. Coming now to needlework, how many hours in the week are given to needlework?—On an average four hours a week.

23398. Do you think that sufficient?—I think it is sufficient.

23399. Do you consider that if a longer time was given the children would simply spend that longer time in merely practising the same thing over and over again, without learning anything very valuable?—I mean, the time would be spent in mere work as distinct from learning anything?—I don't think a longer time is desirable or could be spared; I think the way in which we require to improve here is in having smaller numbers in our needlework classes.

23400. In London, Sir Joshua Fitch, eminent educational authority as he is, told us that on principle he thinks that no longer time, and indeed not more than two or three hours should be given to needlework in a week; the object of this branch of schoolwork being, as he said, to teach the art of needlework and to provide a certain amount of practice, enough of practice to render that teaching really effective?—I think our large numbers require four hours a week, but if we had smaller numbers we could teach in a shorter period.

23401. What would you think of a system in which ten hours a week are given to needlework?—I think it would be very delightful to teach them dressmaking and other subjects, but I don't see how the time could possibly be spared.

23402. Mr. MILLER.—Would not the sixth class pupils who remain receive a larger amount of needlework?—Certainly, they return for the special purpose, they have the entire morning or afternoon devoted to cookery, laundry and needlework.

23403. How many hours devoted to needlework?—Four and a half hours a week.

23404. Mr. STRATHGIRN.—May I ask whether it is not a feature of the Scotch system of inspection that considerable responsibility is placed on the local authorities?—That is so.

23405. The School Board is supposed to have an oversight of the instruction that is going on in the school, and to a certain extent an equal inspector with the general inspector?—I understand so.

23406. And grants are largely paid on the certificate of the local authority that the work has been done satisfactorily?—That is so.

23407. As to the question of mixed classes, suppose you had a laundry class going on, and separate boys' and girls' classes, there would be still the difficulty of only ten at a time, or else say twenty, to be taken at a time for laundry instruction, and the other girls would have to be disposed of somehow?—Our ex-

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perience here is that we have only small numbers in the higher classes of the school; we take cookery for two years and laundry only in the third year, so that it is six-sixth or sixth, and the number may be small, and there may be a corresponding number of boys in the class, the boys are left, and sometimes the whole of the girls go to that class and don't even make up fourteen.

23408. The same difficulty applies to cookery, withdrawing the girls from mixed schools?—Yes.

23409. How many girls at a time are taken from

a class for cookery?—Twenty-four girls for a practice class, and there may be 60 or 70 at a demonstration.

23410. So that if you had a class composed entirely of girls, these would be still a remnant of girls left with nothing to do?—Yes, but we might take half the class to laundry and half to cookery at the same time, it would dispose of the whole number of girls for practical work at the same time.

23411. Under your present arrangement that difficulty would still exist whether you had mixed classes or not?—Yes, in a measure.

Miss Jane Thomson.

Miss JANE THOMSON, Infant Mistress, Gorbals Public School, Glasgow, examined.

23412. CHAIRMAN.—You are the Infant Mistress of Gorbals Public School in Glasgow?—Yes.

23413. I think you can give me some information on the subject of kindergarten; what is the nature of the instruction you give in kindergarten?—Froebel's gifts predominate; about six gifts on an average are taught in each of the Glasgow schools, sixty-seven teach kindergarten out of sixty-eight, out of the six gifts four would be Froebel's, and the other two more modern occupations.

23414. Will you tell us what the occupations are?—Basketwork, cardboard making, paper-cutting, macramé work, and making picture frames.

23415. Is kindergarten taught by the ordinary staff?—Yes.

23416. How are the teachers trained to teach it?—In the Normal College they receive a little training, and the rest is made up by casual teaching.

23417. Are most of the teachers capable of teaching kindergarten?—At present, coming out of the Normal they do not know where they may be allocated, and it is a question of training after they have been placed in the infant department; that does not apply to the headmistresses but to the assistants.

23418. How are the materials supplied, at whose cost?—The Board managers supply the material; they encourage us to realise a little money by the sale of the articles, but they do not insist on our covering the cost.

23419. Are you in favour of kindergarten as improving the powers of observation of the children?—Very much in favour of it.

23420. You think they pay more attention to the other lessons since that instruction was established?—Very much so.

23421. Mr. MOLLOY.—Are you in favour of the kindergarten instruction being confined to the infant schools specially?—No, I think it is best if it is not carried higher.

23422. Would you see any difficulty in having it in first and second classes and upwards in an ordinary school that has an infant class?—No, I think it might be carried further, ought to be, if it exists at all.

23423. Might it also be carried on in the same room, or would you desire to have a separate room?—It can be carried on quite well in the same room.

23424. I think you mentioned that the assistants

were not always certificated in kindergarten?—No, they are not always certificated, they are left to find their own qualifications.

23425. But the principal teacher who gives instruction in kindergarten must have a certificate?—Not necessarily; that is, in order to do her work she is bound to get a certificate, but the Government does not require that. The grant varies according to the work done and the improvement of the department.

23426. Most Rev. Dr. WALSH.—I assume you have never thought of introducing kindergarten on the strict lines of Froebel's system, that is, of having the children attending a kindergarten, strictly so called, as distinct from being at school, or learning any of the school subjects even in an elementary form?—That has never been practicable with us.

23427. And it has never been suggested that it might be introduced with advantage?—In Glasgow, I do not know that. All the kindergarten work is taught by the ordinary teachers and in the ordinary schoolroom.

23428. In your modified kindergarten training, whilst the kindergarten work is going on, the children also, during the same years, learn something of reading and spelling in the ordinary way?—Oh, yes.

23429. As far as you know, is the favourable opinion which you have formed of the effect of kindergarten work, the general opinion of the teachers who have to do with it?—Yes.

23430. And the general opinion of the inspectors and school authorities in Glasgow?—Decidedly.

23431. Mr. STRUCHER.—When you spoke of certificates a moment ago, Miss Thomson, you said that some of the teachers in infant departments were not certificated, meaning that they had not a special certificate?—That is what I mean.

23432. But as a rule they are certificated by being in the training college, in which instruction in the principles of kindergarten and infant school teaching is part of the course?—Yes.

23433. But they have no special certificate for kindergarten?—No.

23434. And they acquire their knowledge of kindergarten by actual practice in the school, having only some of the theoretical knowledge before they entered?—Yes.

Mr. ALEXANDER NISWELL, Manual Instructor

under the School Board of Glasgow, examined.

Mr. Alexander Niswell.

23435. CHAIRMAN.—You are a manual instructor?—Yes.

23436. To what school?—Woodside.

23437. What do you think are the qualifications of a manual instructor?—I was trained as an engineer and had pattern making in my training, and then had teaching certificates of science under the Science and Art Department.

23438. What is the course of lessons which you give?—I begin first of all by simple exercises in planing, then gradually go on to marking, setting out, sawing and chiselling, and ultimately in the second year to constructing small models.

23439. You teach the woodwork I suppose in connection with drawing, do you?—Yes.

23440. Has every pupil to draw the object he is going to make before making it?—The pupil has to draw the object full size, and in the second year probably to a scale of half full size, before beginning to make the model in wood.

23441. Does he use his own drawing in the actual work?—His own drawing in every case.

23442. What do you conceive to be the value of the instruction in woodwork?—I think principally it sharpens their powers of observation, and shows the boy into what lines he should direct his energies ultimately.

23443. You don't teach it with a view of teaching them a trade, but from an educational point of view?—An educational point of view.

23444. Most Rev. Dr. WALSH.—Did you receive any instruction in the art of teaching?—Before taking manual instruction I had five years teaching evening class students engineering, drawing, and mechanics.
23445. That is, you had actual experience?—Yes.
23446. You never were in a training college?—I was two years in a technical college in Glasgow.
23447. Not in a training college?—No.
23448. In the training college the pupils, in addition to learning, for instance, arithmetic, learn, or are supposed to learn, how to teach arithmetic; I wish to know whether you received any similar instruction in the art of teaching school woodwork?—No, I never received any instruction in the art of teaching.

23449. Of course you have had by this time a good deal of experience in that department, and this has fully qualified you to teach it?—Four years experience.

Glasgow.
Oct. 21, 1887.
Mr. Alexander Stewart.

Mr. GEORGE F. DUNCAN, Manual Instructor under the School Board of Glasgow, examined.

Mr. George F. Duncan.

23450. CHAIRMAN.—You are a manual instructor?—Yes.

23451. And I understand that you are a trained teacher, and were not an engineer?—No, I am a trained teacher.

23452. What is the course of lessons that you give?—Well, I begin with simple planing and sawing, the only difference from some other courses being that I give small models from the commencement. I find the boy's interest is not kept up unless we give that.

23453. Were you at Nuss?—No, I was at Leipzig.
23454. Do they follow the Nass system there?—No, they used the ordinary tools, simplified to some extent.

23455. What do you conceive to be the value of the instruction that you give, from an educational point of view?—I think it has an effect on the whole nature of the child—mental, moral, and physical—and as a teacher I observe that effect. I taught the subject in my own school, as a head master, before I came to Glasgow.

23456. Was your school a country school?—Yes, in Staffordshire.

23457. Had you any difficulty in finding room for teaching it, and also with regard to meeting the cost of the benches and appliances and wood?—No, but we were under somewhat special circumstances, we simply rented the tools and benches from the County Council.

23458. You did not teach in the school-house, that, I believe, you cannot do in England; you must teach in a separate place?—No; we taught it in the school-room for three years, and gained the grant.

23459. And nobody made any objection?—No.

23460. Most Rev. Dr. WALSH.—Did you receive any grant for it?—Yes, 7s. a child.

23461. CHAIRMAN.—How many benches had you in that school?—Five double benches.

23462. You had perhaps more rooms than one?—Yes, but we only used one for that.

23463. Only used one for all purposes?—No, we had other rooms.

23464. Rev. Dr. EVANS.—Was the school in which you formerly were head master, and where you introduced this valuable instruction, a Board School?—No, it was under private management.

23465. Are the private managers in favour of manual instruction, as far as you know?—I think they are; they were, decidedly.

23466. What was your experience of the effect of manual instruction on other subjects in the programme?—I found it sharpened the children all round.

23467. Did you lessen the programme in any wise in order to make room?—We did, we taught only one extra subject, and in some of the other subjects we shortened the time given to them.

23468. Which were they?—In arithmetic we shortened the time, and I think in geography and history; we dropped history, after a time, altogether.

23469. Did you shorten English at all?—We did not.

23470. Would you think it advisable to do so?—I don't think it would be.

23471. Mr. MOLLAY.—Did you experience any inconvenience carrying on the manual instruction in the school room or class room of the ordinary school?—No, we had no difficulty.

23472. Then the attendance must have been much lower than the amount of accommodation provided for the attendance?—Well, the accommodation was slightly over the average attendance.

23473. From shavings or otherwise was there no inconvenience?—It was taken the last two hours of the school day.

23474. One hour, perhaps, outside the ordinary school hours?—No, half an hour.

23475. And one and a half of the ordinary time; how often in the week?—Once.

23476. Mr. STRATHFORD.—You regard considerable practical skill as an indispensable qualification for the teacher of manual work?—Yes.

23477. But he should also have an understanding of what the object of the work is, that it is not merely making pupils expert in using certain tools, but that it also has a distinct object in training his intelligence?—Yes.

23478. And you think a man who was merely a skilled worker might be very apt to lose sight of that object?—I have had as assistants skilled workmen and teachers, and my idea is that the skilled workmen were generally unsuitable, they turned their attention chiefly to the models.

23479. But in an exceptional case a skilled workman, who was a workman to begin with, might develop sufficient knowledge of the educational end to be named at to make him an efficient instructor in this work?—Yes, and I know some men who did so.

23480. Most Rev. Dr. WALSH.—But that would be exceptional?—Yes.

23481. Messrs. MOLLAY.—You have had experience of teaching woodwork, both before you went to Leipzig, and after you returned?—Yes, my knowledge was not gained in Leipzig, it was more for the lectures in teaching that I want.

23482. Where did you gain your knowledge of woodwork?—I had a knowledge of woodwork since I remember, almost; it happened to be what I saw daily.

23483. Could you tell me, if you had an intelligent teacher skilled to teach literary subjects, but not yet trained in woodwork, how long would it take him to qualify to be a good teacher of woodwork?—The most intelligent and successful assistant I ever had was a certificated teacher, and he had only the training I gave him in one winter session, six months, for four hours a week.

23484. Suppose, now, that instead of being altogether ignorant of woodwork, he had such a knowledge of woodwork as is acquired by your pupils, he could be trained as a teacher of woodwork in a still shorter time?—Yes, very much.

23485. Perhaps six months with two hours a week?—I should think so.

23486. Most Rev. Dr. WALSH.—Or possibly even in less time?—Possibly.

Glasgow.

Oct. 25, 1897.

Mr. John G.
Kerr, M.A.

Mr. JOHN G. KERR, M.A., Headmaster, Allan Glen's School, Glasgow, examined.

23487. CHAIRMAN.—You are the head master of the Allan Glen School. Perhaps you would tell us a little about your career?—After leaving school I was a pupil teacher in the ordinary way, then, instead of going to a training college, I went to Glasgow University, and from Glasgow to Oxford. Since then I have been continuously engaged in teaching, first as assistant master in a public elementary school with a large secondary department—that, however, was but for a short time,—then as Lecturer for thirteen years in a Training College for teachers in Glasgow. From that I was appointed in 1890 to my present position.

23488. You are headmaster of a large secondary and science school?—I think, probably, the largest secondary and science school we have.

23489. What additional experience have you had, beginning with your laboratory experience under Lord Kelvin and others?—In addition to university work in the physical and chemical laboratories at Glasgow and Oxford, my experience includes South Kensington classes, and some work in an engineering workshop, where I went to supplement my practical knowledge. I spent a considerable time in a drawing office and workshop.

23490. You have been an entrance examiner for the University?—I had the honor for four or five years to discharge that office, and in that way was able to form some estimate of the nature of the education with which boys of sixteen or seventeen went to the University. During the last twenty years I have had a good deal to do in the way of examining for bursaries in connection with secondary education in various cities.

23491. I think you are President of the Educational Institute of Scotland?—That is a one year appointment. I held the office for 1894-95.

23492. You are at present Convener of the Business Committee of the General Council of the University of Glasgow?—Yes, and I held now the honorary position of President of the Royal Association of Scotland.

23493. Will you tell us something about the school in which you are headmaster?—The Allan Glen School was founded in 1855. Allan Glen, a worthy citizen of Glasgow, who presumably had a defective education, thought it would be good for artisans to have a sound education, and accordingly left almost all his money for the purpose of establishing a school entirely in the interests of artisans, education, clothing, and books were free. There were fifty or sixty pupils. After the Scotch Education Act the school was no longer necessary, and the trustees applied for power to reconstitute the school. In 1875 Allan Glen's Institution Act was passed, which put the school on an entirely new basis as a secondary school, offering a high-class education but mainly with reference to industrial pursuits. There were workshops from the first in the school, the course was not entirely scientific but mainly scientific; there were mathematical, chemistry, and drawing courses of instruction. In 1886 the Enforcement Commissioners took the school into consideration, confirmed the organisation under which it had been for ten years, and placed it under the Governors of the Glasgow and West of Scotland Technical College, so that at the present time we are personally carrying out in a somewhat modified way the curriculum which the school offered in 1878.

23494. Mr. STURTEVANT.—In your school, Mr. Kerr, science instruction has always been a prominent feature?—An extremely prominent feature, it has been our main source of existence. We could not have survived except by pushing science teaching and by taking advantage of the grants of the Science and Art Department.

23495. You begin science instruction at what age?—We make money from the Science and Art Department when the boys are about thirteen and a half or fourteen, and from that on to sixteen or seventeen.

23496. But where do you begin the actual teaching of science?—We have science defined pretty much on the same lines, but not so advanced, in the class before that. In standard six we do a little, and even in standards four and five a little, but more in the nature of object lessons. I gave standard six a short course in practical physics last year.

23497. And in sixth and the classes beyond?—They have two hours' practical chemistry, two hours' practical physics and solid geometry.

23498. Taking standards 4, 5 and 6, which correspond to classes of the primary school, what do you consider is the proper end of science instruction in those schools?—It is so difficult to speak about science instruction.

23499. Well what do you conceive is the object of the teaching of science that you do give in that stage?—The main object is to interest the pupils, and to give them an experience different from that which they receive in the ordinary class work—it is an alternative.

23500. That is to say it gives relief to the ordinary literary work, but you would attach further value to it, would you not, in the way of developing the powers of observation?—Undoubtedly, and if the work can be so arranged that the pupil himself will do the work—that is, if the pupil will not merely see the lesson and remember the words and phrases, but if he be made to do something definite, and think something definite, there is an enormous gain.

23501. In your view it is of little importance, what the teacher tells the pupil compared with what the pupil finds out for himself, or the amount of intellectual effort he expends in working out a problem set him?—Yes, I would take the last phrase as representing my position, a pupil cannot find out very much.

23502. And you measure the educational effect by the amount of intellectual effort you can get him to bring to bear in solving a problem?—Yes.

23503. And the problem must be suited to the child's capacity?—Undoubtedly.

23504. Therefore you must have a very carefully graded scheme of instruction in science?—You must.

23505. Is there any other observation you would make about science instruction at that stage, that is the stage with which we are concerned?—I think nothing more than has been said. Whatever science they are to receive must be associated with their doing something definite other than seeing or listening.

23506. You would not be satisfied with having science taught by science readers?—I would object entirely to science taught by science readers.

23507. You think it might not be useful, but positively harmful?—I am sure they would be harmful.

23508. Rev. Dr. STANN.—You would apply these remarks to the ordinary primary school?—Undoubtedly, if it was possible to carry them out, but you must understand that we are under no restrictions whatever as to time. We receive no payments for standards four, five, and six, with no conditions to be fulfilled except that our boys are to be prepared for excellent work later on.

23509. Mr. STURTEVANT.—This science-teaching is part of the general intellectual training to fit them for higher work afterwards?—Yes, and is very little at that stage. I don't think there is more than an hour or two a week, so that I would not like to lay stress upon its being used for any definite purpose.

23510. You would not have science at that stage taught from Readers, and I suppose you would not value merely lectures by the teacher to the children?—It requires a very exceptional teacher to give lectures on elementary science; you can get a scholarly man to give excellent lectures to advanced students, who might prove an utter failure with young pupils. It is very difficult, and probably that is the reason why one does not encourage it very much. I made

the experiment several times but was horrified to discover that the children were being introduced to atoms and molecules, so I stopped that. I took the first and second sections of standard six to the physical laboratory last year, and made them do simple things. They made elementary measurements for themselves and reached ideas of mass and force. They wrote down in simple language the results they got, but of course there was no insisting in the principles of mechanics.

23511. You insist on their keeping accurate records?—Yes; we have, later on, to take advantage of the physical and scientific work in order to make up for the defect in the hours we have for English. I don't think it is quite satisfactory, but it is our solution.

23512. Then you have woodwork in your school?—From the youngest pupil onwards, for every pupil.

23513. What would be the age of the youngest class?—Ten or ten and a half.

23514. So you find pupils of that age can use tools?—Of course they cannot use the heavy planes. Our planes however are not up to the usual weight. We start the younger pupils with the knife on the lines of Kiorst.

23515. But you don't think, so far as you have occasion to use tools, pupils have any difficulty in handling them?—None at all.

23516. For the most part they are the ordinary carpenter's tools?—Yes, with the exception of the knife, and that the planes are lighter and shorter.

23517. What is your opinion of the value of that instruction in schools?—Again I speak more particularly of standards four, five, and six!—It is easy to use general phrases, this I would say, however, that boys after they have been there their hour or two hours are not handicapped either as regards the time spent or the energies expended, their work goes on quite as freely and vigorously as if they had not had the two hours.

23518. So that negatively we may say there is no loss?—I feel absolutely satisfied that there is no loss to the efficiency of the other subjects; but remember the time spent is relatively small, for the very most standard six had two hours a week.

23519. What might be the least?—One hour.

23520. From one to two hours?—Yes.

23521. Apart from the fact that it does not interfere with the efficiency of the rest of the work, do you find any positive advantage from the teaching of woodwork?—Yes, I think I do; but as my direct experience has been in a school with woodwork I can make no comparison.

23522. Let us put it this way: would you, from your knowledge of educational work generally, be inclined to dispense with it?—I would not dispense with it, I am satisfied of that for various reasons. There is a subtle reason that probably the head of a school has more before his mind than one not under such a responsibility, and that is this—the workshop removes the boy from the domination of the teacher in the class room and gives him an opportunity of himself doing and himself managing that which he does; there is more of absolute individual effort, and he is not dominated by the will of the teacher, and this I think is one of the great defects in ordinary school work.

23523. That is to say, it is a means of countering work more effectively than the boy is making some intellectual effort?—That is exactly my opinion.

23524. In it your experience with a teacher giving a lesson to a class of fifty or sixty, that however clear his methods or vigorous his manner, it is quite possible that a considerable portion of his pupils are practically inert?—It is absolutely certain; there is too big a strain in an hour is too long for ordinary class teaching, our system is entirely wrong in that respect. We have our children too long at school each day, and too long at a subject each lesson, and they certainly get dull. They are extremely well behaved, and their behaviour is generally in inverse ratio to the intellectual effort they are making.

23525. CHAIRMAN.—You find that when they are making intellectual efforts they are not so well behaved?—They are more vigorous, they move about, they are not hypnotised.

Most Rev. Dr. WALSH.—The maximum of good behaviour, I suppose, is reached when they are asleep.

23526. Mr. STREETMAN.—You use the word hypnotised, that would describe your experience of the effect of teaching a large class?—I have taught large classes; it is a very difficult job; the teacher is bound to adopt a method of getting absolute conformity of dullness; there is no great spontaneity of effort on the part of the pupils.

23527. That is to say he must endeavour to reduce his work more or less to a sort of mechanical execution?—He cannot help it with large classes, but all that is getting improved, our classes are getting reduced.

23528. CHAIRMAN.—What is the largest class a teacher can teach properly?—A very able and energetic man, a man who can discern exactly what is going on with each boy, might manage in a fairly successful manner fifty, but not more. I would like to say our classes never exceed forty. We have had classes of eighty under one man in mathematics.

23529. Most Rev. Dr. WALSH.—Fifty is the largest number allowed in the English Code?—Yes, and forty in an organised science school; that is a step in the right direction.

23530. Mr. STREETMAN.—In addition to diminishing the numbers in classes you would advocate the shortening of lessons?—I believe more could be done.

23531. A teacher can impress a few essential points in a comparatively short time, and gains more by doing that often than taking the lesson on the same subject too long?—I think the danger the teacher runs is this, he is too desirous to get over a certain amount of work rather than to get a certain amount of effort.

23532. Your standard of intellectual efficiency is the amount of effort the pupil is induced to make?—Certainly.

23533. In addition to those other methods of improving the efficiency of the work in a school, reducing the number in class, you think that woodwork is a valuable element in a good general education?—Yes.

23534. Of course in your school you don't teach it for the purpose that many people suppose is the object of woodwork instruction, of making tradesmen, or shortening apprenticeships?—Not at all. In fact I might quote words I used the other day to a gentleman who came with reference to his boy, the gentleman is one of the most expert mechanics I know. He said: "Now, Mr. Kerr, I don't want my boy to be bothered with toolwork; I can teach him all I want him to know, and teach him better than your men." I said: "My dear sir, my position is this, if I were satisfied that a boy would lose his hands immediately his course was finished, I still would insist on teaching him woodwork, or at least I would urge it strongly, for the amount of general advantage he receives from it."

23535. So, very clearly you value it for the intellectual advantage, not for the manual dexterity in after-life?—Quite so; in fact I am inclined to put to the workshop those who make the best progress in such work. I have boys of my own, and I watch them individually, and those boys for whom I would insist on a little extra work are those who are going to make no use of it afterwards, and who are practically hopeless.

23536. Do you find boys who are dull in other subjects are sometimes intellectually able in the workshop?—Yes.

23537. Develop an unexpected intellectual faculty when they come to work with tools?—I have seen relatively dull boys do splendid work; but I

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would not like to go beyond that, because all the work is done to drawing.

23538. But there is a considerable intellectual effort in interpreting a drawing and constructing it in woodwork?—I certainly cannot give evidence of having observed any boy dull in his ordinary class work who showed any special ability over his neighbour in interpreting a drawing. I have no evidence of that at all, and I don't think I could get it.

23539. Why?—It is another kind of thing; you come to the mathematical region now.

23540. Then would you in an ordinary school advocate some form of manual instruction and some form of elementary science instruction as part of the general instruction of the school?—If the time could be given, undoubtedly I would; I would introduce some form of manual work, without regard to whether time could be had or not, but as for science, unless adequate time is given, the appliances suitable, and the course well devised, it is better to be without it.

23541. Then it is your view that if there is time to introduce only one of those subjects you would prefer woodwork rather than science?—I think that is absolutely my view.

23542. But you prefer to have both, provided time could be found?—I would not have science early.

23543. You don't attach much importance to object lessons?—I attach very little importance to object lessons as I know them.

23544. Then you distinguish between object lessons as you know them and object lessons as you would have them?—I object to the word object lessons. I would try and give them a course of practical work in elementary science; it must be well devised and well supervised.

23545. That means you could not begin with very young children?—No, the earliest with profit is standard six. I try with standard four and five another type of training, which is not science, it is for the purpose of developing quick observation, but it is not an object lesson and it is not elementary science. I will give you an example.

23546. I was going to ask you to explain to the Commission some of the observations you have made in that way?—I have spent a good deal of time and thought on this matter and made many experiments, or rather, I have done a good deal of work in connection with it, and I find that wonderful things can be done to the advantage of the pupils by a little departure from the ordinary routine, and, accordingly, I introduced into the school, and it is now accepted in some schools in India and some in Glasgow, a little modification of the blackboard, a blackboard that revolves on a vertical instead of a horizontal axis. I put upon that board, perhaps, to start with, merely a row of figures, the pupil does not see the figures until the board is turned to him, then, as a signal, the board turns round and the figures are again concealed. The business is to catch the figures and write them down. The next exercise is one in addition on any elementary operation in ordinary arithmetic. The point is, that the teacher is saying nothing, even if a child is not attending he can hear the voice of a loud-voiced teacher, but a child must be sharp if he be in a position to pick a thing up by his eye. You may make crosses on the board and they must say how many, or you may put on the board a picture. I use with great advantage those pictures issued about Christmas from grocers' shops; they are crude; the pupil gets a short view, and his object is to put the facts down on paper, and to make a little analysis of the pictures. With map-drawing we begin with a rough outline, they have to catch that and get the proportions and reproduce it, never drawing while the object is before them. A second drawing giving a little more detail. I tested that by using maps they had never seen, such as the Treasure Island of Robert Louis Stevenson, and it was marvellous how well they did

it. A day or two afterwards they could reproduce it without having it before them. I kept some of them and exhibited them in the course of an address I gave on the subject.

23547. From your experience in that way do you observe any development in the quickness of observation of pupils?—I have no doubt about it. Of course one is liable to believe that that has happened which he desires to happen, but I have no doubt about it. But I need hardly tell the Commission an exercise of that kind can only be for a very few minutes a day, a quarter of an hour exhausts the child, and that is the difference between that kind of work and ordinary class teaching; that is the whole matter in a nutshell.

23548. And you consider that kind of teaching is more advantageous to children than an hour's ordinary teaching?—Yes; I would cut down the time devoted to arithmetic in this commercial country to one half, and know that it would be one half better.

23549. That is, you would run at getting some quickness of calculation?—Absolutely automatic precision.

23550. These experiments you have described would really obtain the intellectual results supposed to be aimed at in object lessons and elementary science?—That is so, my feeling is that it is a very effective way, but then it is my own skill.

23551. You have spoken very highly of the value of woodwork and manual instruction generally, but that does not imply that you attach little importance to the literary side of education?—I attach very great importance to the literary side of education, and I say so that side of the work of the school has undergone very considerable change since I went there, probably not merely because I attach great importance to it, but to be strictly honest because of the fact that I saw that people would very soon come to the conclusion that a purely science school was not the place at which to educate their children. I realised that, but of course that means that I was satisfied that if you cut down your literary education in a school such as ours you diminish its efficiency enormously.

23552. If you had your choice in a time table between woodwork and science on the one side as against English on the other, which would you retain on your programme?—Of what age do you speak?

23553. I speak of the age of children in an elementary school, say from seven to thirteen?—I never would dream of displacing English by woodwork, however much I thought of it.

23554. Take specifically higher ages, twelve or thirteen?—Right on to the end of our course I arrange that every boy shall have at least one hour per day at his English, boys who are doing advanced work in mathematics and physics.

23555. Would you retain geography as an element in the curriculum of every elementary school in preference to woodwork and science. Have you considered that point?—I have not. I cannot just conceive the necessity for an alternative.

23556. Rev. Dr. Evans?—Are your views those we have just heard, on paper?—I brought with me a little statement I published before the Philosophical Society of Glasgow, a meeting essentially of business men, this last spring.

23557. Mr. Mosley?—Is the Allan Glen school to be regarded as a higher class school beyond the ordinary School Board requirements?—Yes, it is scheduled as a higher class school, and we turn out boys who go right to the university and do well.

23558. You mentioned the ages were from twelve to sixteen?—We have boys even up to seventeen.

23559. And the total number under instruction 650; of the 650 you have 200 apparently in standards corresponding to ten, five, and six of the ordinary school?—And six-sixth.

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23560. How are the remaining pupils occupied, at what instruction?—They are then under an advanced scheme of instruction arranged by the Science and Art Department; they have got five hours a week English, five hours a week one other language, it may be Latin or French or German. In addition to that they have got two hours of practical chemistry, two hours of practical physics, two hours of solid geometry, two hours of drawing, and five or six hours of mathematics, altogether making up thirty hours of solid work, excluding intervals.

23561. On the language side it is one of Latin, French, or German?—The younger boys only have one language, but some of the older boys have the alternative of dropping their English and taking two languages, for the purpose of preliminary professional examinations.

23562. You mentioned in your synopsis that in connection with the training and qualification of teachers you recognised some defects in the system?—I did not quite mean it that way, I meant defects in the system of education generally. It was hardly with reference to the qualification of teachers, although that is one of the great problems that has got to be settled. I have come to the conclusion that you cannot have a good teacher who has not something equivalent to a university experience, and you cannot, I think, have a good teacher who has not done something in the way of an apprenticeship under very favourable circumstances, apart from natural bent.

23563. You have experience, of course, of the training colleges?—I have thirteen years' experience.

23564. Of the methods of teaching. Is any special attention paid to that branch in the training colleges here in Glasgow?—That is my trouble; you can get a good normal trained man to do first class tradesman's work, but it is very difficult to get a man whose whole heart is in his business; I don't mean one who is anxious about it, but one who is capably thinking of the exact effect of everything he does. First of all, we don't pay for cash men, and I don't think the formal training in a training college encourages the development of that kind of man, so that of late I have been rather appointing untrained men, and as a matter of fact I went over to Queen's College, Belfast, for the last man I appointed.

23565. In his case had he any experience of practical teaching?—Oh, yes, he had been a monitor in the model school, Belfast, but his chief work, of course, had been as a student.

23566. Most Rev. Dr. WALSH.—What was he brought to teach?—He is teaching the general work of the elementary course, second year; that is to say, he is teaching in mathematics, physics, English, Latin and geometrical courses, and he gives a hand in the chemical laboratory with the class to which his name is chiefly attached.

23567. Mr. MOLLER.—Why would you say that the fact of his not being trained is some special qualification?—I don't put it that way. If you can get a university man with a university feeling about him who has been a training college man, then all that additional experience of course improves the man. My distinction is a man trained in a training college as against a man trained in a university, provided the university trained man has had a good apprenticeship under favourable circumstances, under the headmaster of a good school.

23568. MONTAGUE MOLLER.—With regard to the teaching of elementary physics, I suppose that is done in your college by one of your assistants, not by yourself?—I think there is no bit of the work, except the very advanced work, that I have not absolutely arranged in every detail, and we have got at one man teaching, but at least sixteen men, all doing practical physics, and an class of practical physics is there without the supervision of two men.

23569. Do you give any teaching in pi years except what you call practical physics?—Oh, yes, there are two hours spent in the ordinary classroom in which theoretical work is done based on that done in the laboratory, and of course the work is extended.

23570. Does the master who teaches practical physics in the laboratory, give lectures as well?—Yes, one of the two men superintending a class in the laboratory is the man who does the class teaching.

23571. Does he give his class teaching under a programme drawn up by you?—A programme drawn up by me in accordance with the organised science school scheme of instruction.

23572. Does that begin at the beginning, and go through the whole course?—It begins at the very beginning, and goes right through. I shall have in print in a very short time the whole of the first year's course, but I could sketch out the points of the second year, and indicate the third and fourth years' course.

23573. We should be very much obliged if you would. You seem not to recommend very strongly the teaching of elementary science in the primary schools, do you think it desirable or not to have elementary science taught in primary schools?—I am not inclined to think that it is very desirable in view of the excellent work that can be done with so many other things. Science was science is not of sufficient consequence at that point to justify the exclusion of any of the ordinary work.

23574. But a very large proportion of the people will never go to any higher point?—That is quite true.

23575. Therefore if they are not taught in the primary schools, they will never be taught?—That is quite true, but it would not be possible, I think, to give more than an hour or so a week.

23576. Do you consider it would be desirable to give an hour a week to it?—If that hour could be spared, and if I had a good teacher and fair appliances.

23577. I suppose you consider that the success of the teaching, especially in a primary school, will depend very largely upon the efficiency of the teacher, and his special fitness for the subject?—Yes.

23578. Can you give us some general ideas as to how such a teacher should be prepared for this work in a training college?—At the present time the student in training in a training college is not trained directly—at least in the training colleges I know—to teach elementary science at all, and it would be necessary to remodel in a considerable measure the science training in the training college to get that, which I would like.

23579. Suppose you got a training college where no such system existed, would you give us your idea as to how it should be established; there is nothing to be set aside, you have simply to introduce it?—Then I would introduce a laboratory course precisely on the lines suited for young pupils, and I would make the students in training under the supervision of the teacher go through this course themselves. They should also see this lecturer, we may call him, using the course with children, and the students should themselves have frequent opportunities of conducting practical instruction.

23580. Would you require him to give a course of class lectures to those teachers, as well as a course of laboratory work?—Yes, undoubtedly, and in addition to that there ought to be the teaching of classes of pupils in the presence of those teachers.

23581. He ought to teach the pupils in the practising school, in the presence of the teachers?—The teacher is not taken in directly to the practising school in Scotland at the present time. The lectures on mathematics was never in the practising school in the training college in which I was, nor were the lectures in English and in classics. Our main function was to give instruction to pass Government examinations, which is not enough for the training of teachers.

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23582. I dare say you are familiar with the programme in physical science of the Science and Art Department?—Yes.

23583. Will you give your opinion generally on that programme?—I look upon the Science and Art Department as having made an enormous stride in the direction of advancing education with their programme in practical science. I think it is highly satisfactory.

23584. It has been modified quite lately, and I think in the same direction as that in which you are working?—It is in the same direction, and I know the direction in which the programme in practical chemistry has been guided under the direction of Professor Armstrong and Professor Thilen, and there is no doubt it is in the right direction.

23585. Should you think it desirable that, in the training colleges, the course should follow somewhat on the same lines, though not so high as the Honours Course?—Not so high at all as the Honours Course; you are coming into the region of very advanced scholarship.

23586. But intelligent teachers might read what is called the Advanced Course, or shoot up to that standard. Of course the teaching in the primary schools would be much more simple and elementary?—I don't think a man can teach elementary science unless he has worked hard at advanced science.

23587. You think that a teacher, in order to teach effectively, must have himself read a wider course than he has to teach the pupils?—Undoubtedly.

23588. I think you said that the efficiency of the teacher is in proportion to the amount of intellectual effort the pupil is led to make?—That represents in a phrase my view.

23589. But if a pupil is not taught at all, he must make a greater effort still, and therefore the best kind of education would seem to be one in which the teacher gives no teaching?—Of course the reduction ad absurdum makes it almost out that the worst teaching is the best teaching.

23590. Would you not say that the teacher should not only oblige the child to make an effort, but direct the effort on proper lines?—I think both will go together; the teacher has got harder work according to that view than he has at present.

23591. Mr. SEYMOUR.—If a pupil is not taught at all, will he make any effort?—I don't think so.

23592. MESSIEURS MAYOR.—I think you said you objected altogether to science readers?—Perhaps that is too sweeping. I know some good science readers; it does not make much difference what kind of a book there is, it all lies with the teacher as to how it is to be used.

23593. You would not make a point of excluding all reference to science in books read by children?—No; if I have given that impression, I would like it to be wiped out.

23594. Then you would allow explanations of the phenomena of nature, and also of plant life and animal life, to be introduced into reading books?—Just so, what I am thinking of is a course that is to be labelled "Science," apart from the ordinary work, and that is one of the difficulties we have in Scotland, that we have got subjects ticketted, and special attention devoted to them.

23595. Perhaps the objection you expressed so strongly was directed against some particular books that you had before your mind?—And certain particular science subjects and readers prepared for them.

23596. MRS. DR. WALKER.—And perhaps they were readers that conveyed the misleading idea that science could be taught and learned out of books?—Quite so, conveyed that idea to the teacher as well as to the pupil.

23597. I wish to ascertain precisely the position of your school in reference to the other schools in Glasgow?—We are under a body of governors.

23598. I refer rather to its position on the edu-

cational ladder?—The High School is the highest school we have in Glasgow, as a secondary school; the main feature of the High School is the classical training with reference to the university, and the fitting of pupils for learned professions, but they also have got in that school mathematics, and science. We, on the other hand, make our sciences the strongest part, we do much the same kind of work, but our boys are not trained to the same extent in classics, we are forbidden by law to teach Greek, and accordingly our boys, when they go to the university, have a difficulty in getting between the first year. One function which the High School has got, fortunately or unfortunately, is training for the preliminary examinations of the university, we cannot do that, and accordingly, we cannot show so well.

23599. Boys enter your college at the age of ten, I think the report says ten is the average age?—It is the average age of those entering the preparatory school, but we have a large influx at the age of thirteen from Board schools from Glasgow and the vicinity.

23600. But the average age of boys entering your school is ten?—Yes, boys who have passed the fourth standard in the ordinary school.

23601. Would the existence of your school give any foundation for the argument that the work done in your school should be eliminated from the elementary school, that is, that work in elementary science and in such a thing as woodwork, should not be taught in elementary schools, but should be reserved for a special school such as yours?—I don't think it would give an argument for the exclusion of it from elementary schools, if it were not possible to have a school like ours, but if it were possible to have a school like ours, probably it would be better to have the pupils drafted off.

23602. You contemplate a case in which there would be a number of schools such as yours, a sufficient number to provide for all the children in elementary schools?—Yes.

23603. But that number of schools would be necessary?—Undoubtedly.

23604. So then, in the absence of such a number of schools like yours, it becomes necessary to have the work done in an elementary school, if it is to be done at all?—Yes.

23605. You do not adopt the view that such instruction is out of place in an elementary school?—In such circumstances, so.

23606. Your scheme, which prohibits your teaching Greek, also lays down, "The use of tools shall be taught in workshops, to be provided by the Governors, but not the practice of any particular trade," and the object of the teaching is thus expressed:—"The object aimed at is a training in habits of accuracy, of steady effort in the co-ordination of hand and eye, and in the full interpretation of drawing."—Yes. Owing, I dare say, to the existence of trades' unions, no boy going from a school, however experienced in the use of tools, gets his apprenticeship cut down. But I was making inquiries regarding the influence of our training on the apprenticeship of those boys who become apprentices, and I find the general testimony in that direction, that although their apprenticeship is not cut down in time, they get more out of their apprenticeship, they get more readily up to superior work, and after serving their apprenticeship get more readily into places as foremen.

23607. And, also, they can be more easily taught by the trade instructor, during their apprenticeship, than if they had not had that preliminary training?—Just so.

23608. At what age do the children begin the workshop instruction?—Ten years of age, one youngest is a boy of nine.

23609. You don't find it then, from your experience, to be physically impossible to teach the use of tools to any boy under eleven?—We don't find it at all physically impossible.

23610. You find it physically possible?—And profitable.

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23611. And it is the system of your school to do so?—Yes.

23612. The "interpretation of drawing" is referred to as one of the objects of your teaching; do the boys work from their own drawing?—From their own drawings, as a rule. Our ordinary class teachers are not workshop instructors; we have a skilled artisan assisted by another skilled artisan. The work was originally arranged by a gentleman who was a high Westworth scholar, a man with a training as an artisan engineer. The various class teachers spend half-an-hour a week in training boys in the making of drawings; they leave the block before them; supposing it is a simple joint, they teach them how to make the plan and elevation. Then the pupil goes down with that, and gets his wood and proceeds to work. We endeavour to carry that always out rigidly, but I would not say that is done, for sometimes the work is ahead of the drawing, and the drawing comes on ahead of the work.

23613. Would you approve of a system such as we have carried out in a certain school: the instructor made a drawing on the blackboard, the plan and elevation of a particular object, delivering at the same time a sort of general lecture to the boys as to the way in which he did this; and then, having put in the measurements of each particular part, he put the boys simply to copy down on paper that plan and elevation from the blackboard?—The last point is the important part of the question, as a matter of fact, I was afraid there is too much of that done.

23614. Then from your saying you are afraid there is too much of it, it is plain you do not consider it a good thing?—It is not a good thing that he should copy it off.

23615. Don't you think it would be much better that the pupil should draw the plan and elevation for himself, no matter how rude his attempts might be to begin with?—Very soon after my joining the school I was satisfied a mistake had been committed in the workshop. They worked from a book with plans and elevations. It so happened that the teacher of the class was one day absent. I took the class; I took out a joint from my pocket, made a measurement of it, put it back, and asked them to make the same joint as they had been looking at, and I had only three who made a fair drawing, and the book is no longer in existence.

23616. The really valuable thing would be to show them how to make plans and elevations for themselves?—Yes, and then they have to make the drawing from a description; we don't always manage to carry it out, but that is the idea.

23617. Have you any other general observations to make on the subject of drawing, that you think would be of use to us?—No, we look upon drawing as a compulsory, necessary subject.

23618. It is not compulsory under the Scotch Code?—No. There is no doubt that there is magnificent discipline in drawing. We have two hours a week at least, for every boy in the school, we are not paid for a good many of these things; we are paid for nothing in the four junior classes, so that which we do is done because we think it profitable.

23619. You pay a good deal of attention in your school to drill?—In a way I might almost claim to be, if not quite a pioneer in Glasgow, certainly a very strong advocate long ago in physical drill.

23620. I believe it is now recognised in the Scotch Code?—It is paid for.

23621. And, I think, not merely paid for, but made a condition of the giving of the highest capitation grant, so that if drill is not taught in a school, the highest grant cannot be earned by that school?—I believe so.

23622. You consider that arrangement a useful one?—It is useful in many ways, and particularly in a city school. Our arrangements, of course, are commensurate with regard to our own school. We have a very limited playground, and our boys don't get home to dinner, 300 come by railway. I introduced drill into the school, and have found it extremely profitable. I am quite sure of the value of the experiment I carried on the last year I was there. I took the first section of an advanced class myself and taught them mathematics. I would often stop in the course of the work and put these boys through physical exercises, jumping and horizontal bar, &c. We ran two hours, mathematics, and I took nearly half an hour out of the centre of the period, and I found instead of losing time, that when our harvest came round there was a bigger return in money than I almost hoped for.

23623. Then you attach importance to the teaching of drill, not merely on account of the facility that it gives the boys in going through particular evolutions, which they may never again in their lives be called upon to go through, but for the general effect it has in strengthening them up?—Yes, I put it on that ground.

23624. You also mention singing?—We think it a good thing for boys to learn how to use their voices properly, and to get them familiar with melody and harmony.

23625. In the same way as you have said about drill, singing brightens them up, they are not merely learning things out of a book, but exercising their faculties?—Yes.

23626. Mr. STEWART.—I think in your memorandum you indicate an intention of saying something as to what became of those boys?—I had yesterday accidental evidence, not sought for on my part. I did not lead the conversation even, but it represents fairly well the relation of our work to the future of the boy. A gentleman, the head of a big firm, came in to place a boy with me, and in the course of some remarks he said he had engaged many boys who had gone through the training in our school, and he added that he noticed that as we trained them with a greater attention to detail they had a feeling of responsibility from the first day they entered the office that made them very serviceable. I have from business men in Glasgow—lawyers, stockbrokers and manufacturing firms—more applications for boys than I can meet, although we give no training in what is called mercantile education. The boy learns to do a little for himself, and a very little makes a great difference.

FIFTY-FIRST PUBLIC SITTING.—TUESDAY, OCTOBER 26TH, 1897.

Dundee.

Oct. 26, 1897.

AT 2 O'CLOCK, P.M.,

At the Town House, Dundee.

Present:—THE RIGHT REV. MONSIGNOR MOLLOY, D.D., D.E.C., in the Chair; W. R. J. MOLLOY, Esq.; and J. STRUTHERS, Esq., B.A.;

with J. D. DALY, Esq., M.A., Secretary.

Sir JAMES LOW, ex-Lord Provost of Dundee, examined.

23627. Mr. STRUTHERS.—These classes, Sir James, about which you are going to give us information have for their object the instruction of poor lads in Dundee in manual work and in the ordinary elementary subjects of reading, writing and arithmetic?—Yes.

23628. You make the manual instruction taken on two evenings in the week an inducement for them to attend on the other two evenings to receive instruction in ordinary subjects?—That is so.

23629. Perhaps you will kindly tell us what was the origin of this movement?—I may mention, Monsignor, that in 1891 the Town Council of Dundee received its first grant under the Local Taxation Inland Revenue and Excise Act, 1890, an Act which provided that Scotland should receive a certain grant from the Government annually, but which I may mention is variable, that is to say, the amount given to Scotland each year for this purpose, for the purpose, distribution amongst local authorities, Town Councils, and County Councils, is not always the same. In any case Dundee always receives a considerable sum. I may mention, also, that when this grant was given in 1891, the Chancellor of the Exchequer, then Mr. Goschen, informed the local authorities that the Government wished that this particular money should be given for the support and development of technical education in Scotland. Then it was the duty of Dundee, as of other towns and counties, to utilise this money as far as was necessary for this particular purpose.

23630. They were also warned that if it was not applied to this purpose it might be withdrawn?—Yes, Mr. Goschen intimated as much, that if the money was not so utilised the Government would consider it within their right to withdraw the allowance altogether. In 1892 the Town Council of Dundee appointed a committee, with myself as its chairman. The committee had no difficulty whatever in allocating the money to certain institutions, which were already doing good work in Dundee, such as the Technical Institute in connection with the Young Men's Christian Institute, the High School, and several other institutions. But the committee felt that while in giving those institutions money for this particular purpose they were doing good, yet there was a class in the community who did not at all benefit from any of these institutions, inasmuch as their social condition prevented their attending such classes. The committee, after very careful consideration, felt that something ought to be done for what might be termed the lower class lads in Dundee—lads, that is to say, whose opportunities were very much smaller than boys born of parents who were in a better position—and the question came to be how could such boys be reared, and after a very careful consideration of the whole matter it was resolved to recommend the Town Council to give a grant to the committee to enable it to start what it called manual instruction classes for these poor lads, to take them off the streets where they were too often found at night. I am referring to the lads who have to work in the day—boys who have to work in mills in order to assist their parents in keeping house, and who, in a certain event, had no other resource but to go into the streets,

the Town Council cordially and unanimously agreed with the committee that this was an excellent object, and resolved to grant a maximum sum for the last year of £300 to this committee. With this sum the committee undertakes to support three schools and three workshops in three different parts of the city. With this money they furnish benches and tools and other necessities for the three manual schools, and commenced work in the years 1892-93, in the winter of 1892. Thus the schools were started with that particular object. At that time I may mention there was no suggestion to have anything other than merely manual instruction, no suggestion to have a continuation class connected with manual instruction classes. Thus the thing was started and with considerable success, as great success as the means at the committee's command were able to make.

23631. Was it not the case that the committee approached in the first place the School Board, regarding the work as mine in their province, with the idea that the School Board might take it up?—Yes, that is so. The committee thought that the School Board, being the educational authority in Dundee, were the proper authority to carry out this work, and a small deputation from the committee waited upon the School Board, suggesting they should carry out this work, and the Town Council would give them a sum of money adequate to meet the expenses of this thing. But the School Board said they had already as much on their hands as they could satisfactorily perform, and that in their opinion the committee itself would have much more chance of satisfactorily carrying on the work than the School Board, and so the committee simply had to do the work itself, and has done it ever since.

23632. Perhaps you would explain to the Commissioners what the constitution of this committee was?—To begin with, a short time after it started, it was simply a committee from the Town Council and School Board, a joint committee, but it was very soon discovered that for various reasons, it would be well to make it a joint committee of the School Board, Town Council, and Trades' Council, the Trades' Council of Dundee represent the various united trades in Dundee. Every one of whom, of course, are Trades Unions, and the Trades Council of Dundee is really representative of the Trades' Unions in Dundee, and a thoroughly representative body. The Town Council felt it was desirable that there should be associated with them in this work, especially having regard to the fact that they were going to deal with a class in which such a body as the Trades' Council is very much interested, and since then, therefore, the committee has been jointly composed of the School Board, Trades' Council, and Town Council.

23633. Can you tell what the number of representatives of each body is at present?—Three of each.

23634. It has been suggested to us in evidence in other places, that the trades might be opposed to the introduction of manual work into schools, do you find that those members of the Trades' Council in your committee disapprove of the work you are carrying on?—No, very far from it, the members on the committee are very favourable to the work, I may men-

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tion with regard to that question, that to begin with, there was a disposition on the part of some members of the Trades' Council to oppose what we were doing, on the ground that they believed we were actually teaching the boys a trade, but we very soon undeceived them. We invited them to come to see the classes, more than once, for themselves, and, I think I am justified in saying, that instead of being opposed to the work we are doing, they very highly commended it, and it is now, I think, as popular with the Trades' Council as representing the working men of Dundee, as it is with the members of the committee itself.

23635. At any rate, the fact that the Trades' Council has representatives on your committee is a guarantee that nothing adverse to their interests would be done without their having full knowledge of it.—No doubt of that whatever.

23636. And in that way, at all events, you may hope to carry the sympathy of those who are more directly interested in those trades—I am sure of it.

23637. Now the Town Council contributes something towards the expense of the work of this committee, they contribute a certain share of the technical education grant, do they not?—Yes, they contribute all that is needed as a matter of fact.

23638. Does the School Board not give the use of buildings to any extent?—Yes, they give the use of buildings for the continuation classes.

23639. Then the Town Council contributes money from its technical education grant, and you also receive grants from the Scotch Education Department?—Yes, we have done so since we added to the manual class continuation work, not until then.

23640. You began work in the winter of 1893-93, and at that time the classes were simply classes for manual instruction?—Entirely, nothing else at all.

23641. When was it that some other work was added to it?—The year following, 1893-94, we believed it to be necessary to do that for two reasons—first, because we found that the class of boys we had at the manual instruction classes were very much in want of ordinary education, many of the boys' education in fact had been neglected, many of them were unable to read or write or spell. We believed, therefore, it was absolutely necessary to have these boys at a continuation class. But we had another reason for that, namely, that such crowds of boys came to the manual instruction classes, that we were quite unable to take them in, and we resolved to make it a test of those boys' sincerity and desire for education that they should take in addition to two nights at the manual instruction classes per week, two nights at the continuation classes.

23642. Is it not the case as explaining what you say about the education of those boys, that you have a large number of half-timers in Dundee?—We have a large number who have left school very early.

23643. How long do the half-timers continue to attend half time?—Up to thirteen, I believe.

23644. That would, to some extent, account for the prevalence of boys who were very badly educated in ordinary subjects—I daresay it would, of course it is not easy to get hold of all the boys in a town like this.

23645. In 1893-94, you added to the purely manual instruction classes, continuation classes in the ordinary elementary subjects, reading, writing and arithmetic?—Yes, we did.

23646. Do you take up anything else in these continuation classes?—Well, of course, those who can take other subjects get it, such as drawing and elementary science, but you may take it that the great mass of the boys simply take arithmetic, reading and writing, as all they are able to take.

23647. I remember in my visit to the school, there was a considerable number of boys engaged in advanced drawing and doing it very well, and also clay modelling, do these form part of the manual instruction?—Yes, they are managed by the

same committee, but of course they are licensed by the Science and Art Department, and to that extent are different. But the Manual Instruction Committee, as it is called, takes charge of that, and in fact promotes these classes. And with regard to that, the modelling has not been the success we should wish it to be, so far.

23647. You mean success in point of numbers?—Yes, we fully expected it would be a very popular subject, but up to now it has not been as popular as we would wish, although we are still going on with it, in the hope that it will become popular.

23648. In the case of these schools, you receive a grant from the Science and Art Department, and not from the Scotch Education Department?—That is so.

23649. Perhaps you could tell us the numbers from the start?—Yes. In 1892-93, we had 320 boys; in that year we were doing nothing but manual instruction work, and that was all we could take in. Then, in 1893-4, the numbers rose to 350, this was due to our having spent a good deal of money in putting down new benches, and a considerable increase in our tools and other plant. Then in 1894-5, the numbers rose to 500.

23650. And you can provide increased accommodation?—Yes, we were continuing to do that just as our finances permitted, and again in 1895-96 the numbers were similarly 650. In that year we had not been able to put down any more plant, so the accommodation was just the same as in 1895. Well, in 1896-97, the numbers rose to 700, that is last year.

23651. That again represents your full accommodation?—That represents our full accommodation, I should rather say it represents our bench accommodation.

23652. So far as you have gone the numbers attending these evening classes have simply been limited by the accommodation you could give them?—That is so.

23653. Then perhaps you would kindly tell us something about the finances of these classes?—Yes, the first year we began, 1892-93, when we had nothing but the manual instruction classes, and the annual income we had from the Town Council, it amounted to £401 for this particular work, and of course we had no education grant. We spent that sum that year in fitting up our three schools, and in paying teachers' salaries and the rents of the places that we rented, and gas and taxes and so on. Then in 1893-94 when we were carrying on both manual and continuation work, we spent altogether £732, but we received an education grant that year of £281, leaving a sum of £451 received from the Town Council. Then in 1894-95 we spent a sum of £632, less, you will observe, than we did the year before, because we did not have so many tools to supply, or benches. The grant that year was £383, making a net cost to the Town Council of £249. In 1895-96 we spent £718, with a grant of £384, making the sum received from the Town Council, £337. That year, I may explain, we added to our plant. Then next year we spent £728, and we earned grants to the amount of £445, leaving £283, received from the Town Council, that is last year when we again developed our schools by adding still further to our bench and tool accommodation.

23654. So that hitherto part of the expenses every year, except one, has been capital outlay as it were?—Yes.

23655. And even taking that into consideration the grants that you receive assist you so far that you have only on an average a payment of £300 made necessary from the Town Council?—Yes, you may take it that way, I have given you the correct figures.

23656. Now, the committee in developing this movement had certain objects in view which were not entirely educational?—Yes.

23657. Perhaps you would say a word or two as to those, Sir James?—Well, the committee had in view the fact that in Dundee there was a very large population of poor boys, who were apparently not being taken hold of in the evenings by any agency calculated

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to do them very much good. I have already stated in fact that there was little for them but the streets, and the committee felt that they would be doing a great social work if they could gather in those poor fellows and get them taught useful education on the one hand, and also manual instruction on the other, so that they would, at all events, learn the use of tools and how to handle them, and in that way have both their hands and eyes trained; and whatever they might turn out to be in after life they would, at all events, be handy men. Hundreds, lads of that sort have grown up and many of them, I am sorry to say, do grow up mere millhands, and when they come to the age of manhood they are almost useless for any work whatever except the menial labouring work.

23555. They cannot be continued longer at their present employment, where, perhaps, they receive 16s. or 17s. a week?—No, they get comparatively small wages at the mills, and when they become men they are no use, for the mills take in young lads again, and those men are thrown aside, many of them are drafted into the army, where, no doubt, they get education, and others go as labourers for the rest of their days, and very unskilled labourers indeed. Whereas, we thought that even if they did continue to be labourers they would be much handier labourers than they would be without such training as we give them—that was one feature, and a very important feature, the social one, and of course the educational one was, in our judgment, highly necessary.

23556. Of course the stimulus you have made apply to large classes of young people, for instance, training boys who necessarily leave their employment when they get older, and have not acquired any knowledge that fits them for any other occupation, and messenger boys?—Well, not so much as with mill hands, the great object we had in view was to get hold of mill hands, and when you go to the schools to-night you will be struck with the large number of boys who work in the low mills of the jute spinning mills.

23557. In those classes you have observed, I presume, considerable improvement in the behaviour of the lads, in their power of restraint and discipline?—Yes, it is very wonderful, when we commenced at first many of us thought it was quite an impossible business altogether, so difficult it was to discipline them in any way at all, but after a season or two the boys really became quite amenable to discipline, and became in a sense new boys so far as that goes.

23558. So that from that point of view alone these evening schools you speak of have been, as I might say, an advantage?—I am sure it has been unprovable to their minds as well as to their manners.

23559. Do you think these boys would have been at all likely to attend an evening school at any time?—Well, they did not, as a matter of fact, but few of them.

23560. Judging from what you know of them, do you think they would be attracted to an evening school, which taught reading, writing, and arithmetic?—I am sure they would not.

23561. So to get them to an evening school at all you must provide something like you are giving them?—That is so.

23562. And you find having got them into school you have effected a general improvement in their bearing and manner of living?—Yes, they are willing to go to the evening school in order that they may be allowed to go to the manual school.

23563. And the manual school has an attraction so far as your experience goes?—Undoubtedly.

23564. Have many of those boys attended more than one session?—Yes, many of them. No doubt, the majority each year are new comers, but quite a considerable majority go on as long as three years.

23565. You have no figures on that point, I suppose?—No, I am sorry I have not.

23566. But at any rate some of them have stayed on two or three or possibly four years?—A good few have stayed on three years, so many so that we were able

for the first time this year to draft a few of them into the Technical Institute. And this was really the ground of the whole idea to give those boys an equal chance in life with boys better born, so that they might have a chance of rising, if they have qualifications, and I am glad to say we have a few this year now who are prepared to take the advantages of the Technical Institute itself.

23567. That of itself would be a proof of the educational value of the work you do, the fact that after two years or three years attendance at your school they are able to engage in the work of such a school as the Technical Institute?—Some of them, I am bound to say very few.

23568. You would rather expect that number to increase, would you not?—Well, I would rather say I should hope it would. You must remember that we are dealing with a class of boys who don't get much encouragement, at least many of them, at home to push ahead with their education; we are dealing with a class who I am afraid get very little encouragement.

23569. Of course as regards the essential subjects of reading, writing and arithmetic, I presume you employ certificated teachers, who are engaged in the day schools?—We do.

23570. But for the special subjects of manual instruction, woodwork, clay-modelling and drawing you require special teachers?—Yes.

23571. Could you tell us what qualifications you look for in those teachers?—We employ thoroughly intelligent tradesmen—men who are themselves enthusiastic educationalists, and I am glad to say there are plenty of working men in Dundee with that qualification. We have been exceedingly fortunate in that respect in obtaining thoroughly intelligent men—tradesmen, who are at the same time teachers in the true sense of the word—by instinct, teachers. We thought out that subject very carefully, and we came to the conclusion that a tradesman was the best man for the work we had to do.

23572. You wished to have a teacher of high practical skill in the work he is going to teach. To begin with, you think it also important that he should have some educational knowledge and, as it were, an educational enthusiasm?—Yes.

23573. To understand what is the object of the work?—Yes.

23574. That it is not merely teaching the boys to be carpenters or to make them tradesmen of any particular kind, or to make them expert in any particular part of the work?—We take care when we engage a teacher to tell him all that.

23575. Modelling in clay, of course, is scarcely an occupation that the ordinary artisan engages in naturally. How did you procure teachers in that subject?—Well, we have a very exceptional man—although himself a tradesman—yet he is a first-rate teacher, with an excellent knowledge of that subject, and of wood-carving, and various art work. In that connection I think we are probably more fortunate than many towns would be. In respect of this particular man we are very highly favoured. If, for instance, we had not this man we would have had to engage a teacher rather than the man we have got—I mean a teacher by profession.

23576. You make a point, at all events, in the more advanced work of teaching drawing in connection with the manual work?—We do.

23577. But you don't always find that possible at the very start, do you?—No. The only thing we can hope to do to begin with with these boys is that when we put a piece of wood before them—a model of what we wish them to make—we teach them to take measurements, for instance, and to glue wood thoroughly and evenly, and to put the pieces together in a methodical way, and we insist upon them doing that, but beyond that we don't ask them to do anything.

23578. You insist on accuracy from the very

beginning—such accuracy as is reasonable with kids of that age?—Yes; from the beginning.

23682. You introduce drawing as soon as you usually can?—The teacher makes a drawing, and the boys have to work from the drawing which the teacher makes. Some of the boys are able now to draw what they are going to make, but I am bound to say that is a rare case with the boys we have.

23683. We may take it that very few of those boys have had drawing in the day school before they come to you?—Very few.

23684. So that it is virgin soil as regards that part of the instruction?—No doubt of it.

23685. Well, taking the whole work of your committee now, after your experience of five years, you are quite satisfied that it has had an important influence on the behaviour, discipline, and self-education of those kids?—I have no doubt about it.

23686. And also that it has had considerable educational effect in the way of making them more accurate, and training their powers of observation?—It must have.

23687. But you have been able in a few cases to bring the pupils to such a stage that they are able to enter on the work of the Technical Institute?—Yes, the more intelligent of them. As I have already said with regard to that, the numbers can only be very few, having regard to the material we are working with.

23688. CHAIRMAN.—About how much does Dundee receive from the local taxation grant, you say the amount varies from year to year?—In 1895-96 Dundee received £1,743.

23689. And that was not excessively large or excessively small?—Well, that was large. In 1895-96 Dundee only received £1,170.

23690. The amount then varies within very wide limits?—It varies from £1,160 up to about £1,700.

23691. Would the average be somewhere about £1,400 or £1,500?—Yes.

23692. Is the whole of that expended upon educational work?—Well, in Dundee it is. I think Dundee stands in that respect almost by itself.

23693. Then we may take it that the Town Council of Dundee appreciates the importance of technical education to which that grant is applied?—You may take that surely.

23694. Of that grant somewhere about one-third is annually applied to this particular school, I think you said £400 and £500?—Some years there is more than others. For example, in 1895-96 the sum was £471.

23695. Well, it is from £300 to £500?—I would say about £380.

23696. And that is so expended upon those classes that practically your pupils don't cost you much more than about an average of £1 per pupil. Last year, for instance, the number of pupils was 700, and the total expenditure was £738?—Yes; that included the grants.

23697. Did it include the grants earned both from the Education Department and the South Kensington Department?—That did not include the South Kensington grant. I have only given you the education grant. We get two sets of grants—one from the Scotch Education Department in respect of the manual instruction and continuation classes, and we also get a grant in respect of clay-modelling and drawing from the South Kensington Department, but I leave both out—both the number of pupils and also the grants—out of my statement.

23698. Then the difference between £415 and £738 last year expended on the school, came from the local taxation grant?—£415 came as grants from the Scotch Education Department in respect of the attendance of boys at the manual instruction and continuation classes, and £313 came from the Town Council. I ought to say this: I think that it must be borne in mind that, with the sum we have got from the Town Council, we have supplied all our

schools with furniture which cost a lot of money. This committee has no power to incur debt, and must therefore pay every year everything it spends out of the grant it receives from the Town Council and the Education Department.

23699. With regard to the subjects taught, they are of two classes. One is manual training with a certain amount of drawing, and the other consists of the ordinary elementary subjects of a primary school?—Yes.

23700. You try to combine these two sets of subjects—teaching them upon alternate evenings?—Yes, we must upon it.

23701. And you find the manual training is so popular with the boys that it constitutes an inducement to them to come to the other classes?—That is the inducement; otherwise I don't believe they would come to the ordinary classes.

23702. If the boys had got a good primary education before they came to you, would you be disposed to suppose the literary education that is at present given?—We have three different classes in connection with the ordinary evening schools for those boys. We have a lower, medium, and higher; and, of course, those who are pretty well educated get the higher, and they get what they have not got before.

23703. Then for those boys it is really an advanced primary education that is given?—It is.

23704. But you are obliged to give also a very elementary education, to provide for those half-timers you have spoken of who come very imperfectly prepared in the subjects of a primary school?—The great number of them have to be taught the very lowest rudiments of education.

23705. Now, with respect to the manual training, I think you made it clear that it is not your object to teach trades, but to give such an education as will make the pupils fit to learn a trade afterwards?—Yes; we want to make them handy boys, so that they may be all the better adapted to any trade they may go to, no matter what it is.

23706. And the representatives of the trades now understand that they get their boys better prepared for their work as his?—Well, tradesmen occasionally take those boys as apprentices, simply because they have received the 1846 education we can give them in our schools.

23707. And therefore the school is beneficial both to the trades unions and to the employers?—I could not really say that; they find that the boys that come from our school are fitted to profit by their teaching on account of the manual training they previously had received. The Trades' Council is a body of operatives, those who employ the boys as apprentices are masters necessarily, and I mean to say that I know masters who prefer a boy from those schools, simply because he has already got some training in the use of tools and is therefore more adaptable when he comes to learn his business.

23708. At present there is no distinct, on the part of the Trades' Council, of your school?—No.

23709. Although, I think, you said at first there was?—At first there was an inclination on the part of some of them—it was not by any means universal, there were a few men in the Trades' Council who doubted whether we were doing a right thing from their point of view, but we satisfied the Trades' Council that we were doing nothing at all detrimental to the interests of tradesmen in those districts.

23710. Are your pupils, to any extent, the children of tradesmen?—Oh, yes, a good few of them are, but the great bulk are not, the great bulk are the children of mere labourers, who, themselves have never had an opportunity of getting education, and perhaps don't know the value of it to their children.

23711. You have spoken of the Technical Institute in Dundee, is that also supported out of the local taxation grant?—To a considerable extent, the

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Dundee. Technical Institute receives out of this Technical Education grant £500 a year.

23712. But at present, comparatively few of the pupils of your evening school are able to go to the Technical Institute?—This is the first year that any of them have asked to be sent there.

23713. That seems to show that already the feeling is growing that they may be prepared in your school, and fitted to profit by the Technical Institute afterwards?—Yes, that was the crown of the office we had in view when we started this thing; we wanted to gradually raise these boys until we could take advantage of this greater institution where tradesmen's sons and sons of people of all classes go to get trained in purely technical work.

23714. And that crown is already in view?—It is on the part of one or two of them.

23715. Mr. MOLLAY.—Your evening school started about five years ago?—Yes.

23716. And the general result of it is very satisfactory?—I should have said six years ago, this is the sixth year.

23717. And your experience is that the outcome is of a very satisfactory character?—Yes.

23718. I notice that all along you spoke of provision for the instruction in the evening of boys; is there any corresponding instruction for girls in Dundee?—The School Board give instruction to girls in the evening, but I am afraid hardly for a class of girls analogous to the boys we are dealing with, I mean mill hands; this very committee tried something of that sort, I may tell you, and they were more or less successful, I am afraid rather less than more successful.

23719. Did that arise from indispotion, on the part of the girls to attend in the evening?—It is not so easy to manage, and of course there is another difficulty and a very serious one, the committee think it is a most necessary thing to attend to the wants of the girls in that direction, but of course the training they would want would be domestic training.

23720. Quite an, cookery and laundry work?—Yes, I am afraid we have not been able to do it in such a manner as would lead to much good.

23721. Then all your efforts up to the present have been on the side of the boys?—Practically.

23722. Have you compulsory attendance in Dundee?—At the day school, yes.

23723. How many boys are on the rolls of the evening schools, how many are registered for admission to the schools?—700 is the number on whom we get grants. I have taken it in that way because at the beginning of the session there is always quite a crowd of boys, far more than we can take, but they drop off. I have taken the numbers on whom we get the actual grants, indicating that they have been there a sufficient time to warrant the Department in giving us a grant.

23724. Could you broadly indicate what the average nightly attendance is, say for the last session; what I want to come at is the ratio of the attendance to the number on the rolls, how many entered at the beginning and then, perhaps, fell away from the instruction and might have returned for a little time in a desultory manner?—You may take it that the number at the school is the number I have said, 700. I cannot say how many fall away.

23725. That 700 represents 700 individual pupils?—Oh, yes, certainly.

23726. Mr. SMITH.—Some of whom may have attended a fortnight, or a month or three months.

23727. CHAIRMAN.—But all these 700 attended sufficiently often to get a grant?—Certainly.

23728. And the number who have attended from time to time is very much larger than 700?—You may take it that way.

23729. Is the ordinary nightly attendance about 700?—I think so, you may take it on the whole that the number I have given is about the attendance,

some nights there may be fifty fewer, but it would be very rare, some exceptional occasion would keep them away, some boys, for example, have to work at nights in their mills.

23730. Mr. MOLLAY.—What is the minimum number of attendances required by the Department to warrant their grant?—That I am not certain of.

23731. And the duration of the class, it opens, I suppose, on September?—It begins at the beginning of October, but that also another witness will tell you.

23732. Is there any test applied to the proficiency of the pupils at the end of the session?—No, there is no test.

23733. Are there any prizes distributed for regular attendance?—There is a test by the inspector of schools, well, he is here and he will tell you about that, I have no doubt.

23734. But your committee does not apply any test?—Oh, no, it does not.

23735. Along with the ordinary subjects such as reading, writing, and arithmetic, you have manual instruction on two nights, the other subjects on two other nights, you have drawing also, is there any elementary science taught?—I believe there is, I cannot give you details as to what it is, but we have asked one of the teachers to be here to-day just to tell you these things.

23736. Would you be able to say whether music is taught also?—No, we do not teach music.

23737. CHAIRMAN.—You mentioned that the average cost for all this instruction was about £1?—Yes.

23738. And out of the sum total your Town Council contributed £315 for the last session?—Yes, that is it.

23739. What is the local education rate in Dundee on the valuation of property?—1s. 2d in the £ this year.

23740. That is high, is it not?—We ratepayers consider it very high.

23741. But I hope the ratepayers also think they get very good value?—I have no doubt they do.

23742. If they get as good value in the day time as they do in the evening they ought to be content?—I think they get good work for the money.

23743. I would like to emphasize this, that your expression was that the great object of the manual instruction was to teach the boys how to use tools and handle tools, not at all to teach trades, and as a subsidiary thing that they may be led up to enter at the institute?—Yes.

23744. Have any objections been offered by the parents?—Far from that.

23745. Parents and boys co-operate enthusiastically with you about this manual instruction in the evening?—Yes, the parents are delighted that the boys should attend.

23746. And from a commencement of 320, when there was a novelty about it, you have brought it up to 700?—Yes.

23747. Mr. SMITH.—And your impression is that if you had more accommodation you might have a larger number?—I believe if we had accommodation and schools in suitable districts and money to carry them on with, that this system would be far more universally taken advantage of by boys than it is in Dundee.

23748. Could you give us any information about the plant?—The figures I have given you include the cost of the plant that we paid out of the money we received from the Town Council, because as I understand it, the Department will not give grants in respect of putting down plant such as we require in these schools.

23749. CHAIRMAN.—You mentioned that in the first year you spent £500, and that a large part of that sum went in the equipment of the schools, afterwards your expenditure on equipment went up to £415 one year, and £450 another year?—That is so.

Councillor ELLIOT, Chairman of Manual Instruction Committee, Dundee, examined.

Dundee.
Oct 20, 1907
Councillor
Elliot.

23750. CHAIRMAN.—You are a member of the Town Council of Dundee?—Yes.

23751. And you are also a member of the joint committee which manages the evening schools?—Yes.

23752. And you are Chairman of the Manual Instruction Committee which, I suppose, is a sub-committee of that body?—No, the whole committee work simultaneously; there is no sub-committee.

23753. Then the Manual Instruction Committee is the whole committee?—Yes.

23754. You have heard the evidence given us by Sir James Low. Do you agree substantially with the opinion he has expressed?—Substantially, in every respect, so far as the material details are concerned, but I might give you some information with regard to the boys themselves. The object of these classes has been explained to some extent, but I may tell you that the lads who attend these classes are principally mill lads. If I mistake not, sir, you made the inquiry as to whether any of these lads were the sons of tradesmen; I might say very few of them are the sons of tradesmen, the big majority, at least 95 per cent, belong to the very poorest of Dundee, the residuum, the lowest grade boys; a large proportion of them are destitute of father or mother, either one or the other; a very considerable number are orphans. During the past five years I might say that the aggregate numbers who passed through our hands in the session have been close upon a thousand. I wish to explain that, although 700 has been the average attendance on last year, we have always a pretty large number upon our list, and as soon as there is a vacancy they are ready to come in. I will give you an instance: one individual school, the headmaster of which is a witness here, enrolled this year somewhere about 600 lads. We could only accommodate probably less than half that number at our manual school; consequently, while our manual or workshop school was filled, we had this large proportion in our continuation school. Of course they dropped off bit by bit from the workshop. We then have recourse to the continuation school and fill up the vacancies there, but in the course of the session, even in those continuation schools, the attendance drops off.

23755. The substantial and important fact for us is that you have about 700 whose attendances are sufficient to earn the grants?—Always. Between five and six years ago when these classes were started, as the last witness stated, we thought we could never manage those boys, but we were exceedingly careful as to the class of men who were to teach them. In the first place, in the workshops or manual school the teachers that were selected we knew the most of them, their characters and their abilities, and we were careful to select good tradesmen, and men, if possible, who had taken certificates in Science and Art from South Kensington; some of them had and some of them had

not, but apart from that we took care that in addition to being good tradesmen, they had also an idea of imparting knowledge as teachers, and then that their moral and social characters were such as to have a moral effect upon lads. The consequence has been that at the end of each session the lads who come in a wild roving boy goes away altogether changed. To supplement that, I have been told by millmanagers and overseers time after time that lads who spend a short time in our classes, say a single session, are not only better boys but handier at their avocations.

23756. Mr. MOLLAT.—You say you employ good tradesmen, and you also take pains that they should be qualified in teaching?—No; in the art of imparting knowledge.

23757. Not merely that they should know the subject themselves, but know how to teach the subject?—Yes, and how to handle the boys.

23758. What steps are taken to ascertain that?—Most of the men belong to the city here, and we know them by repute. Take, for instance, the headmasters, the headmasters are all highly qualified men in their different professions; we knew them perfectly well before we took them. Then, with regard to the subordinates, a number of those we did not know, but our headmasters knew them and knew what they wanted.

23759. Mr. SMITH.—Do you teach elementary science at all?—Physiology.

23760. That is on the evening devoted to continuation subjects?—Yes.

23761. And to the most advanced of the three groups into which the evening school is divided?—The most advanced only.

23762. I suppose that while you lay great stress on the teacher having a practical knowledge of the work he was going to teach, you think he should also have skill in imparting his knowledge and if possible some enthusiasm in his work?—Undoubtedly, the success of the schools has lain a great deal in the enthusiasm of these teachers.

23763. And if you found these qualities united in a certificated teacher you would have no difficulty in engaging him?—Do you refer to continuation teachers or workshop teachers?

23764. I refer to the workshop teachers; if by chance you found a certificated teacher in the ordinary schools who had really a practical command of woodwork and was enthusiastic about its educational benefits, you would have no hesitation in employing him?—No, I have explained to you that the most of these boys are employed in mills and factories.

23765. Mr. MOLLAT.—With regard to hours of attendance?—We commence at a quarter past seven and stop at a quarter past nine, four nights every week.

23766. That does not include any time for religious instruction?—We give no religious instruction whatever.

Barrie Macdonald, Member of the

23767. CHAIRMAN.—You were formerly Chairman of the School Board of Dundee?—I was during the last School Board.

23768. Are you still a member of the School Board?—I am.

23769. You have had experience of these evening schools, would you just state generally what you think as to their usefulness and their success?—I have been a member of the committee from the very beginning and supervisor or chairman of sub-committee for the first three years. I don't know of any social movement in Dundee that has been in my opinion so beneficial to the poorer classes of boys as this movement. The change in the behaviour and the intelligence

School Board, Dundee, examined.

of the boys is wonderful, indeed one who visited one of our schools six years ago, and again one of our schools now, could not conceive that the pupils were from the same class of boys.

23770. What hours in the evening are the schools open?—You mean the manual school?

23771. Yes, tell us of the classes for manual work?—Four nights a week—Monday, Tuesday, Wednesday, and Thursday.

23772. What are the hours?—Quarter past seven to quarter past nine.

23773. No practical intervention has been found to result from the boys going to school and returning from school, in the winter time, at these hours?—We

Barrie
Macdonald.

Dundee.
—
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To the
Honorable
Members.

found none. Indeed we found on more than one occasion very poor little boys so anxious to attend, that I have seen them coming in the stormy, snowy winter nights barefooted.

23774. These are boys whose primary education had been imperfect in many cases.—Very imperfect.

23775. How was it that they did not profit of the opportunities offered by the Board Schools?—Well, it is very difficult to explain that, but there is a residence of boys and girls that it is impossible for the Board School to draw in within their net. A very large number of these poorer classes come from different parts of the country and other towns. We have found boys of fifteen and sixteen years of age in those schools that did not know the alphabet, but in every case we found that they were only a year or two, or perhaps a few months, in Dundee.

23776. Then in many cases their backwardness has arisen from the fact that they were not natives of Dundee, but of some other district, where perhaps they had not the same opportunities as exist in Dundee?—Well, they are very much of a migratory habit. A great many of them are low mill workers, and although our School Board may get hold of them, it is only for a week or two when they are off.

23777. You seemed to say that the pupils coming to these evening classes have a great desire to profit of the opportunities which they offer, and that suggests a question, how it is that they did not profit of the opportunities which the School Boards now generally afford in Scotland?—A great many of these boys had not the opportunities, they were wandering from place to place; but there is not so much desire on the part of the low class of boys to attend the ordinary continuation class as to attend the manual, and it is as a bait to them to attend the ordinary class, that the first year, as Sir James Low explained to you, we did not insist upon their attending other classes. That was not my wish, I was anxious that it should be made a condition from the first, but the majority of the committee thought they would begin with manual instruction alone, but by-and-by we saw that it was necessary to combine with the ordinary manual instruction the regular branches of ordinary education.

23778. And the manual instruction is so attractive that, for the sake of it, they will come to the other classes?—They will, we make it a condition that if they don't attend the ordinary classes regularly they are not allowed to go to the other.

23779. Then with respect to the general statements and views expressed by Sir James Low, I gather that you concur entirely in what he has said us?—Entirely. I might mention that, in addition to those classes of which Sir James and Mr. Elliott spoke, we have in connection with the School Board very large classes for ordinary education.

23780. I was going to ask you if you could give us a short account of the education given under the School Board in Dundee?—I speak only generally just now, because I was not aware until this morning that I was expected to be here, and the School Board has up to this moment no official knowledge of this inquiry. If we had known of it we would have been prepared to lay the figures before you, but I shall be delighted to give you information generally.

23781. We should like to know whether any manual training is given in the Board Schools?—Yes, to some extent. We have in connection with one of our academics a workshop, but the boys are accustomed to pay for that in addition to the ordinary fee. Then, again, we have one central school to which pupils in the sixth standard are drafted from the surrounding schools, and we have a teacher employed for that purpose—that is merely experimental.

23782. How long has the experiment been going on?—For two years.

23783. Do you find that it has fulfilled your

expectations?—Well, I am not quite in a position to speak to that. I may mention that I do not attach, myself, very much importance to these classes in connection with day schools, but I attach the utmost importance to this work after the boys have left school, but not during school hours.

23784. You approve of it, I understand, in what are called continuation schools?—Thoroughly.

23785. Have you any such continuation schools under the School Board?—Oh, yes, for both boys and girls. We have just now in regular attendance about 2,000 pupils, boys and girls, attending our ordinary evening continuation schools over and above those of which Sir James Low and Mr. Elliott spoke.

23786. In these evening continuation schools, you teach the ordinary subjects of primary education?—Yes.

23787. Is that education somewhat more advanced than what is taught in the day schools?—Yes, more advanced in several of our schools. I may state that when we opened these schools a number of years ago we were obliged to have classes for boys and girls in standard two and three, but we find now that there are very few attending who are not able to begin with standard four or five.

23788. Then the bulk of the pupils in the evening continuation schools have already reached standard four or five in the primary school?—The great bulk, we find, however, a very sad feature in connection with our evening schools; we find that boys and girls who have passed, say standard five, and have absented themselves from school then, during, say, two years, are not fit to go into standard five, so quickly do they forget what they have learned in the day schools.

23789. You think it would be desirable that they should go at once to the continuation school as soon as they leave the ordinary one?—That is what we press very strongly.

23790. In the evening continuation school is there manual training?—No, except for girls, in laundry, sewing, and cookery.

23791. That is a good deal for girls, but you don't teach any manual work to the boys?—No; I may supplement what Sir James said about our having as a manual committee done nothing for girls, that for three sessions for 1893-94-95 we employed a special teacher of cookery for the benefit of those poorer girls attending our evening class. We employed a lady very highly competent for the work to teach them cookery and the elements of domestic economy.

23792. You said that in the evening continuation schools there are about 2,000 pupils; what would be the total number of pupils in the day schools roughly?—About 50,000.

23793. The numbers in the evening schools are about 10 per cent of those in the day schools?—Rather more if you count 700 or so attending the manual classes; the 2,000 I give you are over and above.

23794. I mean the evening schools under the Board?—Under the Board entirely, having no connection with the Manual Committee.

23795. Are the elements of science taught in any of your schools—day schools or evening schools?—In all our day schools, and now in several of our evening schools. We have two of our evening schools specially set apart for the higher education—that is, education above the sixth standard—in which we teach physiography and chemistry and several other such branches.

23796. Is the teaching of the subjects conducted under the programme of the Science and Art Department?—Yes.

23797. And do you get grants according to the results examination?—We have hitherto done so.

23798. Mr. Motter.—Do you publish any School Board Report for the year of the working in Dundee?—Tricennially we do.

Deated.
Oct. 26, 1897.
Belle
Macdonald.

23793. What was the date of the last publication?—In April of this year.

23790. Would you do us the favour of letting us have a copy of the report?—I shall be delighted.

23801. How many schools are there under the Dundee School Board?—Twenty-two.

23802. And how many pupils in the twenty-two schools?—Close upon 20,000.

23803. And over and above the 20,000 you have pupils also attending evening schools quite distinct from the manual instruction schools?—About 3,000.

23804. Do many pupils attend both day and evening schools?—No.

23805. Do you prohibit that?—We do; we have found in going round our evening schools perhaps half a dozen out of the whole number, very exceptional cases; but we don't allow it, and we get no grant. I might say that the grants Sir James Low spoke of as earned were the grants paid. We earn a great deal more, but I am sorry to say that the Department manage to clip off sometimes for our evening schools close upon 50 per cent. of the grant earned, we know what we have earned, but we don't know what we will get, and in some schools the grant earned is very close upon double the grant paid, and in every case very much larger.

23806. CHAIRMAN.—Then they must owe you a great deal after so many years?—I am afraid we may let it pass as irrecoverable.

23807. Mr. MONRO.—In addition to the ordinary literary subjects, what special subjects are taken up by boys in the ordinary day schools?—We have mathematics, chemistry, physics, photography, shorthand, book-keeping, and so on. I am speaking of the ordinary schools in connection with two of our academies; we have all the advanced branches of a liberal education.

23808. Where does the money come from for the instruction in these higher branches?—Latin, French, Greek—if you have any?—Well, we get a grant from the Borough Committee, and by means of it we are able to give free scholarships just now to 270 pupils in the higher branches of education. Without this grant we would not be able to do it.

23809. Is that included in the 13d in the £ rate?—We are not entitled to take it out of the 13d rate. We are not entitled to the rate for secondary education.

23810. But you have money at your disposal?—Yes.

23811. On the side of the girls you mentioned cookery, laundry work, and, in a general way, domestic economy?—Yes.

23812. May I inquire is book-keeping taught to your boys?—Yes.

23813. Is kindergarten taught in your infant schools and other schools?—In every one.

23814. Not confined to mere infant schools?—We have no infant schools apart from ordinary schools, we have infant departments, and in every one of them we have kindergarten work.

23815. And if I mistake not the infant department comprises mere infants, and those in standard 1; would kindergarten instruction extend beyond standard 1?—No.

23816. Is your committee in favour of extending it into the higher standards?—That has not been discussed, I am not in favour of it.

23817. We have heard a good deal of evidence on the other side. Would you let us know why you object to the extension of kindergarten?—I don't attach the importance to it at all that is attached to it now-a-days. I am an old retired teacher, I have been engaged in teaching from my youth upwards until I became a member of the School Board. I quite approve of kindergarten for infants.

23818. CHAIRMAN.—Have you object lessons in your system?—Invariably in all schools.

23819. How far do the object lessons extend in the standards?—To the very highest.

23820. Many persons look upon object lessons as a kind of advanced kindergarten?—If that is so I approve of that thoroughly.

23821. Mr. MONRO.—I presume also you have music and drawing?—In every school.

23822.—Drawing is compulsory on boys; do girls participate in the instruction?—It is compulsory on boys, but not on girls; we have also cookery lessons given in all our schools; we have four teachers specially qualified for the teaching of cookery, and they give a course of lessons in one school and then in another, so that all the girls of standard 4 and upwards get lessons in cookery.

23823. Are all the pupils of the ordinary day school free as regards fees?—All except the two academies; in the two academies the highest fee is 2s. per annum, and for that they are entitled to all the branches of a liberal education.

23824. Preparatory to a university?—Yes; many of our boys go direct from these to a university.

23825. Having previously graduated in an ordinary day school?—Yes.

23826. Mr. SOUTHWICK.—You spoke, Belle Macdonald, in the highest terms of the manual evening classes; you found them work very successfully?—Yes, I attach the very greatest importance to them.

23827. And you don't think the pupils who attend those classes would have attended the ordinary evening classes in such large numbers?—I do not think so.

23828. You spoke of the manual work as being a bait which attracted them to the ordinary evening school?—Yes, in a great measure.

23829. And you think the bait has been taken?—No doubt of that.

23830. Would not the same thing apply to the day schools?—No.

23831. You might hold out a bait to get children to the day schools?—Well, the attendance at the day school is compulsory.

23832. I thought you said you found compulsion does not reach a certain class of the population?—It is the younger children, who would not be fit for manual work.

23833. By manual work one does not mean exclusively woodwork; it may comprehend anything from kindergarten up to woodwork. There are various forms, which all have for one of their objects, holding out a bait to children to come to school?—That may be so; we try to attract them in every possible way.

23834. Except this?—I am afraid that would not be successful at all.

23835. It might be worth trying in the case of the schools in the poorer districts, where the children were difficult to get at?—I would have no objection to try it in one or two of our poorer schools.

23836. Turning to the case of Ireland, where there is no compulsion, is many districts would it not be a good thing to make the schools attractive in every possible way?—Oh, certainly.

23837. If you get the children to school by something that attracts them, you may be able to teach them something else that is useful?—Yes.

23838. Putting aside what educational value there may be in the attraction?—I thoroughly agree with that view.

23839. So, in the case of schools in poor districts where compulsion is not in operation, a considerable development of manual work on the lines of your evening schools here would be desirable?—I have no doubt it would be a strong incentive to children to attend.

23840. Then you said you approved of kindergarten in the infant departments?—Yes.

23841. Then you would not have it in standard 1?—I would not object to standard 1.

23842. In standard 2 would you object to it?—I think standard 1 is quite enough.

Dundee.
Or in use,
Baird
Hickford.

23843. Children in standard one are of what age, between seven and eight?—Yes.

23844. Why would you leave it off after that age, if it is beneficial for children of seven or eight would it not presumably be beneficial to children of from eight to nine?—I don't know, I think they have enough to do with the ordinary lessons after that.

23845. By the ordinary work you mean reading, writing, and arithmetic?—Yes.

23846. And not doing certain lessons in reading, writing, or arithmetic, but becoming really expert in ordinary calculations in arithmetic?—Yes.

23847. You want this reading, writing and arithmetic to be of such a nature that it can be turned to practical account?—Yes, I may mention we have drill in all our schools.

23848. For instance take grammar—what do you conceive to be the purpose of teaching grammar in addition to reading, writing and arithmetic?—It is a question I did not consider, I think it is a self-evident.

23849. Many people have ventured to throw a doubt on its value?—Yes, a late member of our School Board declared that spelling was perfectly useless if one could write so that his correspondent could understand what he meant, and the same way with grammar.

23850. We may take it that anything in addition to reading, writing and arithmetic should be of such a nature as to make the children more intelligent?—Certainly, but our inspectors do see to it that their intelligence is cultivated.

23851. If it should happen, as a result of experiments with manual work—I am not speaking of wood-work exclusively, but cardboard work, which requires considerable accuracy and forethought—if it turn out that such work did develop the intelligence of the children and made them more accurate you would consider it on a level with other subjects of school work outside of reading, writing and arithmetic?—Yes, after a certain stage.

23852. Would you not put it before a certain stage rather, that is to say, the more abstract subjects, such as grammar would come later, and those which were concrete, such as cardboard work, would come earlier?—I would certainly put grammar in the forefront.

23853. Forefront in order of importance, but I am talking in order of time?—I would put it in order of time as well.

23854. You think it more important it should be taught in second and third than in fifth and sixth?—No, I think it should be taught in all standards, but if you don't begin in second and third you will not make them very proficient in fifth and sixth.

23855. But still if it turned out that manual work in its various forms had the effect of making the children more observant and accurate and of sharpening their wits, you would think it a useful subject of school instruction?—Yes, if there was time, but the teachers are so pressed just now with the requirements of the Code.

23856. If you found in evidence that in schools in England, Birmingham, and Liverpool, where they devote a great deal of time to this form of instruction, if you found the universal testimony is that the efficiency in the ordinary subjects has not fallen off, that would be some encouragement to take it up?—I dare say it would.

23857. You have 3,000 children in the evening schools; it would give us an idea of how that means a continuation of the day school if you could furnish the number of children in standard five—do you happen to know that?—I do not, but I can send it on.

23858. Being about 2,000 all over there might be 3,000 or 3,000 in standard five, that is to say the evening classes represent practically the number of children in standard five. They take standard four work in the evening school, but probably all of them have passed standard five?—What I meant was

that a good many who some 3 years ago passed standard five in the day school are scarcely able to enter standard four after a year or two. I can give you exact figures. A large number of our pupils leave after passing standard five.

23859. You think it very important to encourage these children to go on to the evening school if you cannot get them to continue in the day school?—Most certainly. And one suggestion that I and others have presented is what we should approach the department with a view of making it compulsory on children to attend school until they pass standard six unless they give a pledge to attend our evening classes.

23860. You think that would save a good deal of educational waste in the country?—I think so, a very great deal of the education is simply lost, ceased out after they leave school.

23861. That is to say children of eleven or twelve, no matter how thoroughly they may know the subject at the time, if they don't continue it, are just at an age when it is easily lost?—Quite.

23862. Is the absence of this proposal you speak of what stops do you think might be taken to get the children to move regularly into the evening schools from the day schools?—We instruct our teachers strongly to recommend all children whom they find are leaving the day school to at once join the evening school.

23863. Is there an evening school in connection with each day school?—Not quite.

23864. Not quite, but nearly?—Nearly, but they are not in connection with that particular school they are for the district.

23865. I understand, but for almost everyone of your twenty-two schools you have an evening school?—Yes, in nine-tenths.

23866. These evening schools would be brought to some extent, if not entirely, by the teachers of the day school the assistants?—We have fifteen evening schools, in addition to the three manual classes.

23867. It is an easier thing to get the teachers to take an interest in an evening school conducted in their own school than to persuade children to go to another school?—I don't know that that would be practicable. I said we had fifteen evening schools, eight of those are for boys, and I think seven for girls. We could not have in the same school, at least we don't think it prudent to have boys and girls taught in the same school—at least we don't think it prudent to have boys and girls taught in the same school in the evening. We have separate schools in separate localities for boys and girls.

23868. I suppose you think the evening school the proper place for teaching such subjects as shorthand and bookkeeping rather than the day school?—Yes, I do.

23869. Would you say the same thing about cookery and laundry work?—About laundry work specially; I would not say so much about cookery. I know the girls attending the day schools in standards five and six show a very great interest in cookery and domestic economy, but laundry is specially adapted, I think, for evening classes.

23870. You have one central school in the day schools for manual instruction?—Yes, it is held in a building which you will see to-night.

23871. It is simply a room for manual instruction and nothing else?—Sandy.

23872. And pupils are drafted to it from six other schools?—Yes.

23873. And do all the boys from standard five and upwards at those six schools take manual instruction?—They are allowed to do so.

23874. Do you know to what extent they avail themselves of it?—I think they nearly all go.

23875. You don't find that the subject is unpopular with them?—Oh, no, the subject is popular.

23876. Don't you think they might in that case continue longer at school?—Well, it is possible it might induce them.

23877. Mr. MOLLAY.—The assistant teachers of the day schools are the principal teachers of the night schools?—They are.

23878. And of course they have a separate salary for their work done at night?—They have.

23879. Might I inquire the rate of salary?—The salary for three nights of the head assistants just now is 20s. and 14s. for assistants—this is the first year that we have had them for three nights only. Up to that time they were teaching four nights, then you an experiment has been made, following the example of some other towns to have them for only three nights.

23880. That rate of remuneration is independent altogether of the number under instruction?—Wholly independent.

23881. CHAIRMAN.—You have spoken of two academies under the Board; I should like to know in what respect exactly do these academies differ from ordinary Board Schools?—In the first place, they are fee-paying schools, and then they are divided into two departments—an elementary, the same as the ordinary day schools, and then a senior or secondary department, in which Latin, Greek, mathematics, chemistry, and such other branches are taught.

23882. And do all the children of the academies pay fees?—Except those who have free scholarships from the grant to which I alluded. We make that a competitive examination.

23883. Do many of the pupils of the ordinary schools come afterwards to the academies?—They do, we hold an examination every year about the middle of June, to which pupils from all the schools are invited to attend, and those who make a certain percentage—this year I think it was 60 per cent. of marks—are entitled to free scholarships, so far as we can give it in the academies. This year the number is 272.

23884. Then these academies afford an opportunity to all the pupils in Dundee of obtaining a higher education if they qualify themselves for it?—Yes.

23885. And those who gain scholarships can obtain that higher education free?—That is so. These two academies are the schools or academies under the School Board. In addition to that there is a very excellent institution—the Dundee High School—of

which I have the honour of being a director, but it is not under the School Board.

23886. Is that a secondary school?—It is elementary as well as secondary; all the branches of the elementary education are taught as well as the higher, but that is independent altogether of the School Board.

23887. Mr. SMITH.—It teaches such subjects as you have already mentioned, Latin, French, mathematics, Greek, and so on, and you also teach woodwork in it?—Yes.

23888. Do you consider that on a level with the other subjects you have mentioned as a subject of secondary education?—It is optional.

23889. Do many attend?—A good many do, but only a comparatively small number of the whole of the pupils.

23890. Pupils who are preparing for engineering or some such occupation?—I should think so, and also pupils who wish to have some little handicraft.

23891. Do you think it is taken with a view of preparing for a future occupation, or with a view of giving them a more all-round education?—I think more of an all-round education. I may mention we had a very great difficulty at first with the Department with regard to our grants for manual work. According to the Code we are obliged to take manual instruction concurrently with the ordinary subjects, that is on the same night, and, indeed, according to the regulations of the Department, in the same building; but I think we, in Dundee, managed to convince the Department that that was not practicable. In the first place, it was impossible to teach them manual work, I mean joinery work, in an ordinary day school, and then, in the next place, we convinced the Department, too, that to teach them manual work, and also the ordinary branches on the same night, consisting of only two hours, was not a very satisfactory way. For instance, boys working with tools or saws from seven to eight, were not in the best position to go to drawing, and vice versa, and the Department yielded on that point, and allow us now to have the Schools in separate buildings and on separate nights.

23892. So you found the Department open to conviction?—On this occasion they were.

Mr. ROBERT CALDER, One of Her Majesty's Inspectors of Schools in Scotland, examined.

23893. Mr. SMITH.—You are Inspector of schools in the Dundee district?—I am.

23894. And you have inspected the manual instruction classes, about which we have already had evidence, since they were opened—the manual instruction classes, of course, being taken in connection with classes for elementary subjects?—Yes.

23895. You concur generally in the evidence you have heard as to the influence of these manual classes?—I do, I consider them an important social movement in the city, getting hold of young lads who could not be got to the ordinary evening schools before.

23896. You find the discipline in these evening schools quite satisfactory?—The first year, at the beginning of the session, it was not, but as the season went on it became satisfactory, and in the succeeding session it was quite satisfactory.

23897. In fact more satisfactory than you would expect from the class of lads who attend?—Quite so.

23898. And do you find instruction in the ordinary subjects also satisfactory?—Standards four, five, and six, make satisfactory progress.

23899. Have you paid attention specially to the manual work that is carried on?—I have, a good deal.

23900. Do you think it has any educational advantage apart from its effect in attracting boys to the school?—Yes, I think it has an important educational bearing on the lads in the way of awakening their in-

telligence as well as making them handy in the management of tools.

23901. They have got to be reasonably accurate?—They have to be reasonably accurate and use great pains, and to think out what they are about, which is an important matter.

23902. So that generally tends to an increase of intelligence?—I think it does.

23903. It might have a marked effect in that way in the case of pupils who would not profit by the ordinary subjects?—Yes, to a certain extent, it would.

23904. That is to say, as one finds in ordinary school work, pupils profit by one subject more than another, and we have to provide a certain diversity of subject in order to bring out the best powers of the pupils?—Certainly; there are some that would take to manual work more readily, and get more benefit from it.

23905. You have, also, experience of the other evening schools in Dundee. We have heard it stated that there are 2,000 children attending evening continuation schools?—There are about 2,000 attending ordinary Board schools, but there is a considerable number of evening scholars in Dundee besides Board scholars.

23906. A good many of these evening schools are schools for girls?—A good many of the Board schools

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are schools for girls, and there are a good many schools for girls outside the Board system.

23907. Who conduct these other schools?—Principally church organizations.

23908. They are purely voluntary schools?—Purely voluntary schools.

23909. In those schools do you find that much attention is given to instructing the girls in cookery and laundry work?—That is the main object. The schools conducted by the churches take up a corresponding class of girls to those who go to the manual instruction classes; they teach them needlework one evening in the week, and in addition, laundry and cookery, and in some instances dressmaking and one or two other useful branches.

23910. Then those classes do for the girls somewhat the same work that the special manual schools we have heard about, do for the boys?—So far as regards manual training, they do, but there is no continuation school for ordinary literary work in connection with them.

23911. They are not held out as a bait to induce the children to attend instruction in ordinary subjects?—No. The Board ruled evening schools corresponding to the manual classes for boys, and found it very difficult to get girls induced to take ordinary instruction in order to get cookery or laundry work. They will come to cookery, dressmaking, or laundry work, but they don't like to be tied up to attend other classes.

23912. But they can be brought to attend other classes by making it a condition that they can only get cookery and laundry work by attending?—Not successfully.

23913. Then cookery and laundry has not the same attraction for them that manual work has for boys?—I would not say that, they are very anxious to get cookery and laundry work.

23914. But they are not prepared to pay for this instruction by attending classes in ordinary subjects as boys are?—That has been the experience, they seem to think cookery, laundry, and dressmaking are subjects they would like to acquire, but ordinary reading lessons, arithmetic, and such like subjects they think they can do without: it is very difficult to get them to go to such classes.

23915. Have you considered the method in which cookery and laundry work are taught in these schools?—Yes.

23916. Do you think it is made as attractive as it might be?—I think so.

23917. So that it is not for that reason that the girls cannot be induced to attend on the condition of taking the ordinary subjects as well?—No, it is not for that reason; the girls are quite attracted by the cookery and laundry as taught them.

23918. There is not the provision for the practical instruction of girls corresponding to what there is for boys?—There are four schools conducted by churches under inspection, with at least 500 girls in attendance, young women, many of them, from 20 to 25 years of age. Then there is the Young Men's Christian Association and the Young Women's Christian Association—they have large classes, the Young Men's have 400 in attendance; it is under inspection. The Young Women's Christian Association is not under inspection, but they teach cookery and laundry work to a large number, I know.

23919. Are shorthand and book-keeping taught to a large extent in the evening school?—In the Board's evening schools there is a good deal of shorthand being taught. In five or six shorthand is taught to large classes, book-keeping is taught in four of them, in the two academies and two others, as far as I remember. Of course I see most of the evening schools once a year, but one or other of my assistants generally takes the visitation. In the two academies you have large book-keeping and shorthand classes, and you have large shorthand classes in three or four other of the ordinary Board schools.

23920. It seems more natural, does it not, that three subjects, which are of use to certain people and not to others, should be taught in continuation schools where the attendance is voluntary rather than in the ordinary day schools?—I think so, book-keeping at all events.

23921. You have kindergarten departments in all the Board schools in the town?—In the infant division of nearly all the schools in the district we have kindergartens.

23922. And you find it does not interfere with the progress in the ordinary subjects?—Not in the least, I think at that stage of the scholar's career it is a great awakener of the intelligence and enables him to get on quicker.

23923. Have you anything corresponding to kindergarten in standard one and two?—A good many of the schools carry on kindergarten to standard one, but there is nothing beyond that, in many of the schools standard one is considered part of the infant department.

23924. Is woodwork taught in the higher departments in any of the Board schools outside Dundee?—No. In the High School, that is not an inspected school, but I know the workshop well. It is one of the best workshops in Scotland, almost all the boys from the sixth form get an opportunity of getting instruction in woodwork.

23925. Do you know whether a large portion take advantage of the opportunity?—I believe a considerable portion, about one half, take advantage of the opportunity given, and they have a regular course of instruction from the teachers there are on the staff of the school and are engaged in teaching geometrical and other drawing, and so arrange the work that drawing dovetails into the woodwork.

23926. I suppose it is taken up in the High School because it is found to have a useful educational effect?—I think so.

23927. There is no intention of preparing them for a profession or trade which involves knowledge of woodwork?—Not in the least. But the boys are very fond of it.

23928. Might it not be said about woodwork in the ordinary elementary school that it has an educational effect?—If it could be provided in a similar way my impression is that it might be very useful in the higher classes, especially in Dundee. I have often thought it might be good as a bait—the word has been used by a private witness—a bait to boys to remain at school longer than they do. In Dundee there is great educational waste in the fourth and fifth standards, and in the sixth there is a sudden one-third of the number in the fifth. As soon as they get through the labour certificate examination, they are away from school, and very often run about the streets for a year or more before coming to the evening continuation school, by which time they have forgotten a great deal that they learned before.

23929. Short of the compulsion that Balfour Beith would speak of, don't you think that everything should be done to make the attendance in the higher classes of the day school attractive?—I do.

23930. And if it was found by actual experience in other districts that woodwork was an attractive subject it would be a subject the School Board might naturally introduce?—I think it would be very desirable to introduce it if it was found by experience to lengthen the attendance of boys at that age.

23931. Take the intermediate standards three and four, don't you think there is need for a little drill there in the work as well as in standards one and two?—Not much, there is science taught in all the schools by object lessons and experiments, and they have also drawing taught in all the schools.

23932. To both boys and girls?—No, merely to boys; the girls get sewing in place of science.

23933. So the programme of these standards is pretty full?—Yes.

23934. And they get some education which develops accuracy of hand and eye?—Yes.

23935. And it is for experience to settle whether more of this work should be introduced or not?—Yes.

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23936. CHAIRMAN.—I think you have said that the elements of science are taught in all the Board schools in Dundee; are they taught from a specific programme or is it left to each master to teach according to his own ideas?—There is a specific programme, which is submitted to me and approved of at the beginning of the year, but the same programme suits the whole of the schools under the Board.

23937. That programme is only, I suppose, a skeleton programme?—It is pretty detailed as to the work to be taken up during the year, providing a sufficient amount of work for each standard.

23938. By whom was that drawn up originally?—By the head teachers in Dundee in consultation with myself.

23939. Mr. MUGGER.—You referred to the labour certificate, who conducts the examination?—I do, with my assistants.

23940. It is an individual examination?—An individual in all cases.

23941. And it takes in reading, writing, spelling, and arithmetic?—Yes, there are two labour certificates, there is the labour certificate for half time employment in this district, and then the labour certificate for full time employment, which can only be earned after they are thirteen years of age.

23942. And for the half-timers?—Eleven years of age.

23943. Is there a substantial difference in the requirements of the two certificates?—Yes, for the half-timers, standard three, reading, writing, and arithmetic—with dictation, for full timers in the fifth standard, reading with intelligence, composition, spelling, and arithmetic of a higher grade.

23944. These certificates are not given on easy terms?—Certainly not, they must come up to the standard three for half time, and to standard five for the full time certificate.

23945. In the case of a full certificate at the age of thirteen the child need not attend school any more?—It is not required to attend at school any more.

23946. And that is where the gap occurs. After two years the child, perhaps not attending school at all, gets rusty, and when it comes to the evening

school does not come up to the fourth standard?—That accounts for it, but there are a great many others that leave school without obtaining this certificate, their parents allow them to run about the streets as message boys or in various other occupations.

23947. What special advantages does the labour certificate in the fifth standard give the children?—Those who have been working half time are allowed, as soon as they become thirteen, to work full time, and get full wages. If they have not the fifth standard certificate they are not allowed full time until they are fourteen years of age. In Dundee we have between 3,000 and 4,000 children as half timers.

23948. The examination for the labour certificate may be regarded as the only instance of an individual examination conducted by you?—Except in specific subjects. Where pupils take mathematics, Latin, French, or German the grant is paid on individual examination, but for a general certificate the examination in the third standard for the half time certificate, and in the fifth for the full labour certificate, are the only individual examinations.

23949. Then at your annual examinations there are some subjects involving individual examination?—In every school. But these are higher pupils taking specific subjects in the upper classes; they begin with standard five, and go through six and six-six.

23950. And special grants are given on the individual payment?—Yes, as a head.

23951. And in all other branches of the inspection?—It is class inspection.

23952. It is a general view of what comes under your notice?—A general view of the average attainments of the class.

23953. Is the examination by class or by sample?—By class, invariably.

23954. You may select any number out of a class and examine them?—We may, but we never do; we find it just as well to take a whole class.

23955. Is there an obligation to take a class?—No, we may take a sample if we thought it convenient.

23956. Or, as we heard of in England, by mere inspection, after a conference with the head managers and head teachers?—We never do that in Scotland.

Mr. GEORGE J. TARRANT, Headmaster, James-street Continuation School, Dundee, examined.

23957. CHAIRMAN.—You are Headmaster of the James-street Continuation School?—Yes, sir.

23958. This is a school that is under the committee, not under the School Board?—Yes, that is a school in connection with the James-street Manual Instruction School.

23959. We have had a very full account of that school already from Sir James Low. Is there anything you would wish to tell us in regard to the proficiency of the pupils and the character of the education given?—There is only one thing, if I might be allowed, sir, that I would like to emphasize, and that is the absolute indispensability which this manual instruction makes to those boys to attend the school at all. Those boys come from a very low class in the city, at a very early age they are earning very considerable wages, and getting quite beyond the control of their parents, and, while at the ordinary evening schools under the Dundee School Board the most of the boys attending it are there in obedience to their parents, the boys that come to our school are quite beyond the control of their parents, and would not attend ours or any other evening school were it not for the inducement held out by this manual instruction.

23960. What is there in this manual school that is so attractive? Is it the pleasure of doing work or the expectation that it will enable them to earn higher wages?—It is the pleasure in acquiring a dexterity and skill in handling tools, and the satisfaction of afterwards being able to make little articles for themselves.

23961. They can come to this school without forsaking wages or earnings during the day?—Quite so.

23962. Do you find a great improvement in their

manners and deportment during the time they stay in the school?—There is no doubt about that.

23963. Mr. SEYMOUR.—You are headmaster of a school in which literary instruction is given, but not in the manual department?—No, I have nothing whatever to do with it, further than that we are responsible for the registration in connection with the school—to see that the register is properly kept, with a view to earn the grant.

23964. You don't actively teach in the manual instruction department at all?—No.

23965. And you have a knowledge of these boys from their work in the ordinary subjects?—Yes.

23966. Do you find they improve in habits of order as they go on in the session, from attending the manual instruction class?—Yes; I have very strong ideas regarding that. I strongly approve of manual instruction in all phases of school life; the habit of painstaking industry that is involved is most beneficial.

23967. You think it develops habits of accuracy?—Yes.

23968. Of observation?—Yes, and application.

23969. It sharpens the wits of the children?—Unquestionably.

23970. Coming to the general question, don't you think if manual instruction has such good results in an evening school, it might be useful in a day school as well?—I have no hesitation in asserting that.

23971. Of course in an appropriate form; not necessarily woodwork?—Not necessarily woodwork.

23972. I mean woodwork for the higher standards and a simple form of instruction for the younger pupils?—Yes, those in the lower standards

Mr. G. J. Tarrant.

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FIFTY-SECOND PUBLIC SITTING.—WEDNESDAY, NOVEMBER 10TH, 1897,

AT 11 O'CLOCK, A.M.,

At the Ancient Concert Rooms, Dublin.

Present.—THE RIGHT HON. THE EARL OF BELMONT, C.M.G., in the Chair, HIS GRACE THE MOST REV. WILLIAM J. WALSH, D.D., THE RIGHT HON. C. T. REDINGTON, M.A.; THE RIGHT REV. MESSRS. MOLLOY, D.D., D.S.C.; REV. HENRY EVANS, D.D.; REV. HAMILTON WILSON, D.D.; and W. E. J. MOLLOY, Esq.,

with J. D. DALY, Esq., M.A., Secretary.

Professor THOMAS H. TEEHAN, Professor of Mathematics, and Principal, Marlborough-street Training College, Dublin, examined.

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23973. CHAIRMAN.—You are Professor of Mathematics, and Principal of the Marlborough-street Training College?—Yes, my lord.

23974. I believe you are prepared to give us some evidence upon the course of instruction in the female department of the Marlborough-street Training College, outside the ordinary literary programme?—Yes, my lord. The female Queen's Scholars rise at 6.30 in the morning, make their beds, brush their dresses, and afterwards dust their dormitories. They are down at half-past seven for roll-call, and then at morning devotions from half-past seven to eight. At eight o'clock they have breakfast until half-past eight. Then some of the Queen's Scholars return to the dormitories to dust them; others take charge of the cups and saucers, knives and forks, and clean them, and then arrange them in presses. Later in the day they lay the dinner table, and, in turn, prepare, twice a week, a complete dinner for the students, who dine at one table—twelve students. They wash the dinner glasses, and take charge of the dessert service and table linen, and, in turn, they nurse the sick. They prepare, for instance, in the kitchen, under the direction of the cook, toast and tea, beef tea, and other things which may be ordered by the medical officer.

23975. Who are the sick?—Any Queen's Scholar who may be sick.

23976. I suppose they are not many?—Not many, I am glad to say. They superintend the collection and distribution of the clothes for the laundry; they mark the clothing. They make most of the household linen, such as pillow cases, sheets, &c., and repair it. They do small little carpentry jobs, such as tying the cords of a window, repairing a hole in the floor, or things like that—small little jobs of carpentry which are necessary in an establishment of the kind. They keep the studies and the cloakroom in order. There are the domestic duties. In addition, all receive practical instruction in kindergarten. The kindergarten, I may observe, is now included in the theory of method as one of the compulsory subjects of the programme.

23977. As far as the teacher's course is concerned, you mean that every female Queen's Scholar now has to learn how to give instruction in kindergarten?—Well, is subjected to a theoretical examination in kindergarten.

23978. What distinction do you draw between a theoretical examination and being able to give instruction?—A very great distinction. For instance, you may obtain theoretical knowledge from a book, but it does not follow you can go into a school and give the instruction efficiently in addition. The Queen's Scholars get instruction in the infants' school, practical instruction from the teacher of the infants' school, and they take part in the instruction; that is, in other

words, they are trained to give practical instruction in kindergarten. All the Queen's Scholars receive instruction in practical cookery, and all have to attend the examination at the end of the course.

23979. Do the Queen's Scholars ever go down into the kitchen to take part in cooking the dinner that is to be consumed by themselves afterwards?—I pointed out a short while ago that in 1920 they prepare a dinner for a set of Queen's Scholars twice a week.

23980. To be used by the Queen's Scholars?—Yes, a complete dinner. All receive instruction in practical cookery, and we had instruction in dairying—that is, in butter-making, but it was left off a year ago owing to the new programme, which was quite new to us. But I intend to take it up now for the coming season. There is, of course, domestic economy and hygiene; these are subjects outside the ordinary classification programme in which instruction is given to the female Queen's Scholars.

23981. Do you consider that the ordinary programme and an examination held at the end of the course is or is not calculated to facilitate the training of teachers for giving instruction in hand and eye training?—No, I think it is not.

23982. What are the defects in the College curriculum in this respect?—The programme for classification on which the examinations are held at the end of the course is a first-rate programme for the training of teachers in literature and mathematics, but there are for women thirteen subjects on that programme; two of these—drawing and needlework—are adapted for hand and eye training. For men there are sixteen subjects; only one of these—drawing—is adapted to hand and eye training. I then say that that programme, while it is admirably suited for the training of teachers in literature and mathematics, excludes to too great an extent these subjects of practical training. I think that a course should be introduced into the college for practical training alone.

23983. What changes would you think it desirable should be introduced into the training system in order to render the training of teachers more practical?—First of all, this programme in literature and mathematics might terminate—that is, the course might terminate—at a definite time in the training course, and the certificate might be awarded as the result of an examination then held. The remaining part of the course should, I think, be devoted to the following subjects for women—Practical cookery, domestic science, horticulture, dairying, an elementary course of physical and natural science, practical kindergarten, which should include object lessons in physical and natural sciences, and in the elementary principles of botany, and, perhaps, some instruction in laundry work. I should like, my lord, to make a remark with reference to the course of physical and natural

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science for women? I think these subjects should be specially taught with reference to horticulture, in their relation to horticulture, and, as far as possible, agriculture. I jotted down here a few of the heads of such a course. I don't know whether it would be material to mention them. In physical science, for instance—this is merely an outline, and it must not be taken as a programme by any means—in physical science, I, the different states of matter, simple and compound bodies, general properties of matter; II, weight, equilibrium, centre of gravity; III, water: its composition, dissolving properties, rain, vapour, and distilled, evaporation, clouds, rain, &c.; IV, expansion, thermometer, and so on; V, the atmosphere: its properties, pressure, ventilation, the barometer; VI, elementary magnetism and electricity, which should be very elementary; VII, light, luminous and opaque bodies, reflection, shadows, twilight, rainbow, plain and convex mirrors, elementary principles of sound. In natural science the first head would be the three kingdoms of nature, vegetable life, living and non-living things, differences between plants and animals, members, structure and organisation of plants, life of plants, roots, stem, buds, foliage, insects injurious to plants; flowers, general description, morphology, relation of parts, essential leaves of flowers, protection, respiration, propagation and fertilisation; the properties of soils. That is the course I should recommend for women—that is, that there should be a special course of instruction given on those subjects, and that that instruction should be practical. There should be experiments in physical science, in horticulture, in agriculture, and that course should include teaching object lessons on those subjects. The examination at the end of the course should be practical and oral, and, perhaps, to a less extent, a written examination, which I think should be very short in subjects of that class. In order to carry that out, there would be several courses open but I think the best might be to extend the present course of training, which consists of two sessions of ten months, to a third session. At the end of the second session the instruction in literature and mathematics should cease and the third session should be entirely devoted to training in those branches which I have indicated, an examination should be held at the end of the course in those branches and until the teachers satisfied the examiners at that examination, certificates, which they had obtained in the preceding year might be withheld. There are other courses, other means by which it might be done, but I think myself that the course I have indicated would be the most effective.

23184. Now we will come to the course of practical instruction for men: I suppose there are some things which may be taken in common?—Yes, my lord.

23185. Will you supplement what you have said for women with what you think might be further introduced as regards men?—Subjects such as practical cookery, domestic science, darning and practical kindergarten are hardly subjects for men. But for men I should say, practical geometry, drawing and their application to handicrafts, practical agriculture and horticulture, physical and natural science, the course in physical and natural science might be a little more extensive for men than for women. What I have stated with reference to the course of examination would apply to men equally as to women.

23186. I think you are of opinion that training colleges can deal only with future teachers?—Yes, my lord.

23187. What course do you think could be adopted with advantage to introduce practical training among the present teachers?—For instance there is hand and eye training, and the course I would suggest would be that a number of teachers

who have certificates in drawing and who are known to be expert at drawing and in handicraft, should be selected by the Commissioners and a few of these should be attached to each inspector's district in Ireland, such a number as would be decided on after careful consideration by the Board; that these should commence in the large centres of population, in the towns for instance, and in these towns assemble the teachers together, the teachers of the town and of the immediate neighbourhood and instruct them in drawing. First instruct them thoroughly in drawing, a very high course I don't think would be necessary for a beginning, that then they should instruct them in the use of tools, a very short course, and then the application of drawing to handicraft, the one going hand in hand with the other, the application of drawing to handicraft and the actual work. Then when these teachers are so trained, these superintendents or assistant inspectors, or whatever they may be called, should superintend the introduction of drawing and handicraft into the schools of those teachers, and when the teachers are trained in the centres of population they should then hold conferences of teachers all over the inspection district and assemble them for a similar course of instruction and extend it through the towns to the country districts.

23188. Have you seen the system in operation anywhere abroad?—Well, not that system exactly; a system has sprung up in Switzerland, which is not precisely that system, it would be a little too slow for us, that is during the summer vacations courses of instruction in drawing and handicraft are held from time to time in such places as Basle, Geneva, Lausanne, Bern, and other places. The teachers are invited to attend this course of instruction, the Communal authorities, and sometimes the authorities of the Canton, bear a certain amount of expense in connection with these courses, and the only expense the teacher has to undergo is that of his living in the town during the course. These courses are sometimes a month, sometimes six weeks. I think thirteen or fourteen of these courses have been held already in various towns in Switzerland, and a considerable number of teachers have received instruction, but I might point out that in general, a teacher in Switzerland has received a better training to enable him to profit by such a course of training than a teacher has in Ireland, because manual arts are to a certain extent essential in the pursuits of the country, and you find people up in the mountains who are very expert at these manual arts. I think that would be a very slow process in Ireland, and I could hardly recommend it for the present. Afterwards in order to maintain the standard, some course like that could be adopted. I have here a programme of one of the best training colleges in Switzerland, that at Lausanne, for male and female teachers and the Professor of Physical and Natural Science there gives nineteen hours instruction in the week, the Professor of Drawing gives eleven, the Professor of Handicraft gives four, that is four hours for woodwork and eight hours for modelling, and then for book-binding and things like that, six hours, two hours instruction in domestic economy are given for females and fourteen hours for needlework.

23189. Meet Rev. Dr. WALSH.—What do you consider the main purpose of a training college to be?—Primarily to train teachers in the art of teaching, your Grace, and to a certain extent, of course, to improve their general education.

23190. But I take it that the improvement of their general education ought to come in only as a means to an end?—Primarily.

23191. The primary object of the establishment and maintenance of the college being to train them in the art of teaching?—Quite so.

23192. Now do you think that in our present system sufficient prominence is given to that main object of the training colleges?—Do you mean with

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reference to the hand and eye training, or the whole course?

23993. I have said nothing about hand and eye training. My question was a general one. Do you think that in our present system of working the training colleges, the main object of a training college is kept sufficiently in view?—No, I don't think so.

23994. Do you think that we can set up a proper system of training in reference to manual instruction, or hand and eye training, without considering the general system of the training colleges, considering it as a whole, and to a certain extent re-creating it?—I certainly think you cannot.

23995. Then I have to ask you in what way do you think that more prominence could be given to the main object of the training colleges than is at present given?—Well, I have indicated one course, by extending the course for an additional year.

23996. My reason for putting the question was that you said there were several ways; you have indicated the one which you prefer, it may be a help to us to have a variety of courses to choose from; the first plan, you say, is an extension of the course, that is a prolongation of it?—To another year.

23997. In answer to Lord Balfour you said another reason; I take it that by a session you mean a College year?—Yes, ten months.

23998. So that in your plan of reform, the training course should be extended into a course of three years, instead of two?—Quite so.

23999. You are of course aware that there is no such training course recognised, at all events as a general thing, anywhere in these countries?—Not in Ireland.

24000. Nor in England or Scotland?—Not recognised by the Department.

24001. I am not speaking of exceptional cases, but of the general framework of the system?—Yes, but in most European countries it is done.

24002. You are not perhaps aware that of late they have introduced a third year into the training system in England, at least to some extent?—I have heard something about that, but I cannot say whether it is recognised by the Department.

24003. It is, you will find it in the Code; I mention it because it shows a tendency in the direction you suggest. Now, so much for your first plan; what are the other plans that you have to suggest?—The other plan would be to raise the standard of the entrance examination.

24004. Let me first ask you another question about your last suggestion. If the course were extended to three years, what length of time would you give to the more instruction of the students in the different branches of school learning, and what length of time would you give to their training in the art of teaching what they had learned?—Do you mean in the third year, your Grace?

24005. First of all, I want to know would you let the work of the training college, in those two sections of it that I have described, run on concurrently for the whole period of three years, or would you begin with one of those sections and finish it off before taking to the second?—First of all, I would take the literary and mathematical course at present, and give prominence to those subjects for the first two sessions, I would not exclude—I don't think it would be advisable—I would not exclude entirely those other subjects to which I have referred.

24006. But observe; I am not speaking of a distinction of subjects, out of the distinction between teaching people certain branches of learning, and training them in the art of teaching those things which they have themselves learned: my first question on this branch of the subject is, do you suggest that one portion of the training college course, the first portion of the course, long or short as it may be, should be given to the more instruction of the Queen's Scholars in the different branches of learning, and that the

second portion of the course, long or short as it may be, should be given up to training them in the art of teaching what they have learned?—No, your Grace, I do not, what I suggest is this, that the first portion of the course, the two sessions, should be principally given up to literature and mathematics, and that the practical teaching should go on at the same time in those subjects.

24007. By practical teaching, you apparently mean teaching them how to teach?—Precisely, and practical teaching in training the teachers how to teach those special subjects should go on during the second course.

24008. I am afraid we have not yet got this fundamental matter thoroughly cleared up. First, there is a distinction between two classes of subjects, on the one hand there are, what we may call the book subjects, and, on the other hand, the practical subjects, hand and eye training, and so on?—Quite so.

24009. There is also an equally important distinction between two other things which are separated by quite a different line; first, teaching a subject, a school subject, to the students of the training college, and secondly, training those students in the art of teaching that subject, so that they may afterwards be able to teach it efficiently in their schools. Now will you kindly explain your view clearly upon the whole question, bearing in mind those two distinctions which I have pointed out?—In the first course of ten months I would have the art of teaching, as well as instruction in the subjects themselves, but I would confine that almost entirely to teaching them how to teach the literary and mathematical subjects.

24010. In other words, you would confine the work of the training college student practically to the book subjects as distinct from what we may term the practical subjects?—Quite so.

24011. But as regards the book subjects, you would do the two things that I have described, you would teach those subjects to the students, and you would train them in the art of teaching those subjects afterwards to their pupils in the schools?—Yes.

24012. Then do I understand you that all this would go on for two years, what then would be the work of the third year?—I would just do the same with the subjects in the programme for practical instruction.

24013. Now you have fully explained to us one way in which the thing could be done, what are the other ways?—That is the best way, though it might press a little hard on our teachers; they are not wealthy people, and three years in a training college might press hard on them. The other way would be to raise somewhat the standard of the entrance examination, in order that, at least at Christmas, in the second year of residence, the literary and mathematical examinations might be held, and that course finished, and the remainder of that session, from the 1st of January to the 30th of June, devoted to this practical course.

24014. You mean, I assume, the whole work of the training college in reference to the practical subjects?—Quite so.

24015. That is, the practical subjects as distinguished from the ordinary book subjects?—Yes, that is the course I have indicated for that period.

24016. So that, as regards time, you would first distribute the course in the training college, long or short as it might be, into two parts; during one of those parts you would deal with the subjects to which prominence is given at present, but in the other part you would give prominence to the new subjects which we speak of as the practical subjects. This being so, would you have throughout the whole course the twofold work of the training college going on, the instruction of the Queen's Scholars in the subjects and also their instruction in the method of teaching those subjects afterwards to the pupils in their schools?—I certainly would.

24017. Now is there any other way that occurs to you?—The other way would be I think that instruction in natural science, physical science, agriculture,

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handicraft, the application of drawing to handicraft, should be given. I think a course of instruction in those in itself as good a means of educating teachers as your literary and mathematical programme; I think moreover it has a more far-reaching influence; I think it is very important in a country like this to teach people how to do something with their hands, even for their leisure time. I think it is very important, and if no other course could be adopted, I would then be in favour of giving equal prominence to each of these courses, a year to each, and raise the standard of the entrance examination.

24018. I saw an account of an American training college where a system is followed about training should like to know your opinion. There are two years in this course; the first year is given up to teaching certain subjects, say, history, mathematics, geography, drawing, and so forth; the second year is then given to the training of the students in the art of teaching those subjects which they have themselves been taught; do you think that such a system would work well?—I do.

24019. You see, of course, how it differs from your suggestions?—I do, I think it would be better that the two things should go hand in hand.

24020. Bearing in mind the distinction between the two classes of subjects, you consider that the twofold work of the training college should go on concurrently over both those classes?—In that course in the American college, the first year is devoted to the art of teaching?

24021. Oh, no, it is given to the mere teaching of the subjects to the students of the training college; that is the reason why I expressed surprise at your answer?—I should not approve of that plan.

24022. So I assumed. Now let us try to clear up another point. You speak of instruction in kindergarten as part of the work in a training college; it strikes me that you speak of kindergarten as if it was a branch of schoolwork, a thing to be learned, like spelling, or history or arithmetic?—Well, unfortunately there is a text-book.

24023. You do not think that kindergarten should be treated in a school as a thing that has to be learned?—It has to be learned from a book unfortunately, theoretically, in order to wait the purpose of the examination; my idea of kindergarten is that it is all practical work with our hands.

24024. Kindergarten is not at all a subject to be learned, though unfortunately it is often so treated. It represents a method of instruction. What do you consider should be the work of a training college in reference to kindergarten?—Practical instruction in the school, teaching those teachers how to teach little children kindergarten.

24025. I am afraid we are on different lines. But may I ask is sufficient prominence at present given to kindergarten work in the training college, so far as your experience goes?—Not by any means, it has to be learned from a book, a kind of theory which I think is not of much consequence, but the teacher has to read and study these books for an examination.

24026. But, as regards kindergarten work, you recognize that the main object of the training college should be to see that the students when they are turned out as trained teachers shall know how to apply that theory—in other words, to do kindergarten work in their schools?—Precisely; I think they all forget afterwards what they learned from those books.

24027. Now as to drawing, to what extent are the female Queen's scholars in your training college in Marlborough-street trained in reference to drawing?—They all learn drawing.

24028. What is the character of the examination which they are to pass in drawing at the end of their course?—It is a paper set by the Commissioners.

24029. But I wish to know what precisely does it test?—I think it does not test very much.

24030. But, much or little, what precisely is the thing that it does test?—Does it not test the teacher's power of drawing?—Of drawing, to some extent.

24031. Only to some extent?—But does it test anything else, to any extent?—I mean, does it test the power of teaching drawing?—No, it does not test that at all.

24032. But surely it is obvious that this, after all, is the main thing that a training college ought to test in drawing, for instance, the real object of the college is to turn out people not merely able to draw, but able to teach drawing?—Quite so. For instance, I think a man may be able to draw splendidly, yet would fail in teaching a class of little children.

24033. I merely wish to know from you whether you do not agree with me that in reference to this subject of drawing, the main work which a training college ought to be set to do, is altogether neglected at present in the training college of which you have personal experience?—Quite so.

24034. Not that it is the fault of anyone in the training college, but that it is the result of the system, the result of the present programme?—Yes, I understand.

24035. There is one practical subject that you have as yet said nothing about, that is music?—Instruction is given in music at present to all our Queen's Scholars.

24036. Suppose we divide the subjects taught in schools or training colleges into two sections, and speak of one set of these subjects roughly as bookwork, and of the other, as practical work; to which of these two sections do you think that music belongs?—I think I would put it with the latter. All our female Queen's Scholars get instruction on the harmonium.

24037. I take it that they are examined at the end of the year?—Those who wish to go forward, but all cannot be brought up to the standard.

24038. What is the nature of the examination in music?—Mr. Goodman tests them on the actual instrument.

24039. That is, he ascertains whether they can play. But as it is his business to test whether they can not only play themselves, but teach others to play, in a word, that they can teach music?—No. The head inspectors, when they are holding the examination in the art of teaching, may, if they like, give an occasional lesson in music.

24040. They may or they may not, and I assume they rarely do. But as to Mr. Goodman, of course, it is not his fault if he does not do this; he has only to carry out the work assigned to him under the programme?—Yes.

24041. You have, as we know, in the Marlborough-street Training College, as in all the other training colleges, a Professor of Method?—Yes, Dr. Doherty is Professor of Method.

24042. What are your special subjects, the subjects that you yourself teach in the college?—Algebra, arithmetic, and book-keeping.

24043. Now, who instructs the students of the training colleges in the art of teaching those subjects, algebra, arithmetic, book-keeping, and Euclid?—I teach a series of lessons to them, just as I teach to a class. I teach a series of lessons that I think ought to be taught in National schools, and that Dr. Doherty sees that these are put in practice, and they teach these lessons before him.

24044. That is, you teach certain subjects to the students, and then your business, but that of another professor, to teach them how to teach those subjects to their pupils afterwards in their schools. Do you not think it would be a good thing in a training college if the professor who teaches any branch of school work—let us say book-keeping—should also teach his students how to teach book-keeping, I mean that he should be professor, not merely of the subject, but professor of the method of teaching that subject?—That is so, and that is the case generally with us; although I am not responsible for the method, I give

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a series of lessons in book-keeping, arithmetic, and algebra to all the Queen's Scholars.

24045. But my question was about quite another thing; I asked whether it would not be well, that in addition to teaching these subjects to the students, you should instruct them also how to teach these subjects afterwards in their schools—do you agree with me that each professor should deal with method as regards his own particular subjects, instead of having in the training colleges such a broad line of distinction drawn as is at present drawn, between the subject and the method of teaching that subject?—Yes, I think if you had professors in training colleges who were good practical teachers themselves, that would be a very good course; it would give more variety even to the instruction in method.

24046. And it would keep more clearly in everyone's view the main object of a training college?—Quite so.

24047. That is, it would give a tangible reality to the idea, which is at present obscured, that a training college is not so much a place for teaching particular subjects to students, as for the training of those students in the art of teaching these subjects afterwards in their schools?—That is the worst idea about the training college, that it is an institution for bringing teachers up to a certain standard to pass in certain subjects, and the idea of training is not sufficiently kept in view. It is not the duty of a School of Medicine to prepare in Arts.

24048. But I was not speaking of a distinction, such as that between instruction in Medicine and instruction in Arts. A distinction between different branches of learning is one thing—and a distinction between the instruction of a person in a given branch of learning and the training of that person in the art of teaching what he has learned, is another, and a very different thing. We are agreed as to that?—Quite so, your Grace.

24049. Mr. REMINGTON.—You stated that nineteen hours a week were given to the study of natural science in the training college at Louisa?—Yes.

24050. That includes the lessons given to each class?—Yes.

24051. I find in the 1st class only one hour a week is given to natural science, in the 2nd class three hours a week is given to the study of mineralogy, in the 3rd class three hours a week is given to physical science, and in the 4th class three hours a week is given to botanical science?—That is all the better, I think, not to have the students all together.

24052. I think you said that they gave more time to the study of natural science than in our colleges?—Certainly, we practically give none. In the Mackborough-street Training College there is no instruction in physical or natural science.

24053. There is nothing to prevent you from having a Science and Art class?—Yes, but we have to prepare for your examination at the end of the course.

24054. But we accept a certificate from the Science and Art Department in connection with our science examinations—and an organized science class under that Department could be established in the college?—Yes, but if you have sixteen subjects to prepare for the Board's examination, there is no time for that.

24055. I find also in this programme that while nineteen hours a week are given to natural science, 138 hours are given to all the subjects included in the literary and mathematical course?—Yes, they are taught in very small sections, that is a small college.

24056. But the fair way is to compare the amount of time given to natural science with the time given to other subjects. They give 138 hours to writing, German, French, mathematics, history, and pedagogy?—Yes.

24057. And they only give six hours a week to the study of method?—I would you say they are in advance

of us in that matter?—Those subjects you have read out there, pedagogy, French, German, and so on, that is very much in advance of ours.

24058. Do you think it right to give only six hours a week in all the classes to the study of method?—I think it is not so bad, they have four years there, remember, in the training colleges.

24059. CHAIRMAN.—Do they go at a younger age?—Yes, they are sixteen.

24060. In Germany, they go for six years to the training colleges?—Yes. Three years in France, but females have only two years in Switzerland in most of the colleges.

24061. Mr. REMINGTON.—I see they give eighteen hours a week for the study of the violin?—Yes, music is a great subject there, they are brought into the practicing schools, and teachers and pupils work together at these instruments.

24062. They only give two hours a week for the study of domestic economy?—But look at the fourteen hours after that for work peculiar to women, two hours a week is not bad for domestic economy, for they give fourteen hours for needlework, household duties, and things of that class. What I would wish to point out is that handicraft, physical and natural science, are compulsory subjects, and have to be taught as part of the college curriculum. I think that is more important than geography, quatuor equations, or the binomial theorem. I don't see the good of giving a high course of instruction to teachers in geometry and algebra. I don't see what benefit it will be to the country afterwards.

24063. But they teach geometry, and yet you say it is no use?—I don't wish to say it is no use. It is too high a course, and should not usurp the place of more useful instruction; the programme is not high, but the actual examination in geometry is so high that a great deal of valuable time is lost in preparing for it.

24064. Would you leave out any of the ordinary subjects of our training college course?—I don't think you could. I would alter the teaching of geography considerably, we have too much local geography, I don't see what advantage it is to people to learn by rote the heights of the peaks of the Alps, I was on every one of them, but never got any idea of their height until I got near them. The populations of little towns and the lengths of rivers—I had to learn them, but I don't know them now. I would omit all that class of work, and I think it would be very much better that a teacher going through a training college should be able to make experiments in horticulture, agriculture, and physical science, to take up his leisure hours, even if he were never to teach these subjects in the school, than to be able to call out heights of mountains and the lengths of rivers.

24065. Is it necessary to know the lengths of rivers?—If you look into the examinations for some years you will find it will be necessary to know the heights of mountains, lengths of rivers, and populations of towns and districts.

24066. I see in an examination paper now before me, "Draw an outline map of Ireland, to show the principal rivers and mountains," it does not say heights and lengths?—You have reduced that very much, and the programme is greatly improved.

24067. And geography is optional in the third year?—Yes.

24068. Monsieur MONTY.—Is experimental physics taught at present in the training college of which you are the principal?—No, sir; it is not.

24069. Has it been taught in the past?—Yes, Dr. Deherby used to teach it.

24070. How long since it was given up?—Last year under the new programme; Dr. Deherby will be here immediately.

24071. I am speaking of your own college, the college of which you are principal?—Not of the male department, of the female department.

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24072. Is elementary science taught in the female department?—Oh, never taught in the female department.

24073. I find in the programmes under which you teach at present, that the various branches of science are put down as alternatives to one another?—Optional.

24074. They are optional in this sense that a pupil wanting to get first division of first class may take any one of twelve subjects?—Yes.

24075. And among these twelve occur seven scientific subjects?—You are speaking of first division of first, but that hardly counts, there are so very few in the training colleges.

24076. That is the highest standard of classification to which a teacher can attain?—Yes.

24077. An option is allowed between twelve different subjects?—Quite so.

24078. Amongst these, there are seven scientific subjects, namely, mathematics, mathematical physics, experimental physics, chemistry, physiology, geology, and botany; and of these seven subjects together with the other five, he can only choose one?—Yes.

24079. A teacher may be prepared to teach one of these subjects, but he cannot be prepared to teach any of the others; and it is optional for him to choose. Therefore your teachers will go out, some of these qualified to teach botany, some to teach geology, some to teach chemistry, some to teach physics, and some to teach mathematics?—As a matter of fact it hardly counts to that, there are very few first class students in training colleges; if you look at column 3 of the new programme you will find a teacher can only take one of these optional subjects.

24080. That is what I say?—It is optional with him to a certain extent to select a subject, but as a matter of fact he will consult with the professor who is in charge of these subjects, and all the students will likely take the same.

24081. Then all the students will be prepared to teach the same subject?—As a rule they will.

24082. That one may be geology?—It may be any one.

24083. It may be botany or mathematical physics, according to the judgment of the professor who teaches them or of the principal of the college?—Yes.

24084. But he would be quite unprepared to teach the general principles of science?—Quite so.

24085. Do you consider that a good system?—No, I have just been finding fault with it.

24086. The system you propose is entirely different from that; it is that certain general principles underlying science should be set forth in the programme, and that these should be taught to all, and all required to learn them?—That is my opinion.

24087. Is not that a very much better system?—That is the system I have suggested; I think it is only right to state that I don't know whether the professors or my colleagues, Dr. Roberts, share my views in this matter, I have consulted no one, these are entirely my own views, and none of my colleagues are responsible.

24088. At all events your views are quite at variance with this alternative system, by which one only out of twelve subjects can be chosen by the pupil, and you are in favour of a system under which all should be taught certain general principles of science, and be prepared to teach them?—Yes, I would do away with the selection of optional subjects altogether.

24089. Mr. Morgan.—You have not given us up to the present any information as to the students who attend Marlborough-street College, if I mistake not they may be chosen teachers already in charge of schools or persons qualifying themselves to become teachers of schools?—Quite so.

24090. Have you many of the former class, those already in charge of schools?—We had last year thirty girls of that class, and the present year we

have fourteen: the vast majority are students who come in for the two years' course, but the fourteen females at present are either assistants or principals in charge of schools. And there are 150 students in the college altogether, that is 136 for the two years' course, and fourteen for the one year's course. I have not said anything about the one year's course, because I think the number attending that course will decrease from year to year.

24091. What proposal do you make in the case of these fourteen?—I should be in favour of extending their course for another year, it would be difficult to break up their year into two courses, and I don't see any course I could recommend except to extend their course to two years.

24092. Is not that a very important element in the training college history, namely, persons who come in, already in charge of schools, and want to improve their system of teaching?—Yes, but these are falling away, and in the future years we will hardly have any.

24093. How many untrained teachers are in charge of National schools?—I never made up those statistics, there are a large number, but I understand from the authorities of other colleges that the number of such teachers claiming admission to colleges is decreasing from year to year.

24094. Have you heard there are upwards of 2,000 untrained teachers available by age and otherwise for training?—I have no doubt there are, but a great many, I daresay, are old teachers.

24095. What provision do you make for the training of these people?—I would add a year to their course.

24096. Do you give them an opportunity of coming up to Marlborough-street?—Oh, certainly.

24097. But still you find that last session they were only fourteen out of 150?—Yes, and thirty the year before.

24098. Had you a greater number of applications from people of that kind?—There were a number who applied this year, who were subjected to a test examination at the local centres, and some of these failed, some failed to come to the examination and others failed at the examination.

24099. Would you not think it desirable to make some provision for instruction in the art of teaching of persons already in charge of schools?—Yes, we give them an opportunity; there is a course of ten months open to them.

24100. You started by saying that you proposed to give a two years' course, how would you expect these people to be away from their own schools for two years?—I cannot help that, I did not touch on the one year's course people, but I say if you want to train these one year's people in these subjects of practical education, which I have already read out, you cannot do it within the one year, and the only course is to extend it.

24101. Then it practically comes to this that upwards of 2,000 untrained teachers, in many respects eligible for training, must remain out in the cold?—There is a training college open to them.

24102. Coming up for two years?—It is open to them at present. They may come or not as they please, but if you want to introduce these subjects of practical education for these one year's students you must give them a longer course.

24103. CHAIRMAN.—I think you said that a great many of these 2,000 teachers are old teachers?—Yes.

24104. And they are unlikely to take up any new subject or come to the training college at all, people past middle age?—A great many of them must be.

24105. MONTAGUE MCGEE.—You say it would require two years to carry out an ideal system of training?—I said three.

24106. But cannot students obtain some kind of training in these practical subjects in one year, and is it not better to do a useful thing imperfectly than to leave it altogether undone?—Certainly, that is what we are doing at present.

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24107. Then you agree that if it be found practically impossible to get the teachers up for a two years' course, it may still be a good thing to get them up for one year?—Certainly; but if you adopt the system of hand and eye training in local centres, you can bring teachers of that class and train them.

24108. Mr. Mallory.—Do you mean to convey practically that the 2,000 teachers are old teachers?—I have not the slightest idea of their age, but I should think a great many of them must be.

24109. Is it not a fact that a monitor on the completion of the normal school course can become a principal teacher of the third class, and on the conclusion of the July examinations last year a number of these were appointed, none being over eighteen years of age?—Quite possible. A monitor who is appointed a teacher from being a monitor ought not to be brought into a training college for a one year's course, because he chances to be principal or assistant. I think he ought to be brought in for the exchange course.

24110. What was the highest classification that any of your teachers has yet aimed at by coming up to the college?—Column 3 of the new programme; all went in except one man, that would entitle them under certain conditions to second of first.

24111. Had you any applications for first class among these candidates for training?—Yes, all the senior division were applicants for first class under the new programme.

24112. Well, first of first?—One only.

24113. There were 247 in training, and only one was a candidate for first of first?—Yes; I had no girls.

24114. Had you any for second of first?—Yes; all the senior division, both men and women. Column 3 of the new programme would entitle them to second of first at the last examination provided they made 65 per cent.

24115. I take it now, having disposed of the actual teachers, your general body of students are ex-monitors, ex-pupils teachers, or senior pupils who have passed a preliminary examination?—Yes.

24116. And for that class you advocate at least two years' and perhaps a three years' course?—Yes.

24117. How are these people selected?—By competitive examination according to denominations. Our college admits all denominations; we decide on the number of each to be brought in. We take the Presbyterians in order of merit and the Catholics in order of merit. We take all denominations equally.

24118. Now all the pupil teachers or ex-pupil teachers already classified attend Marlborough-street College, I think, for training?—I think so.

24119. Now these people had undergone a preliminary course of training for two years, and some of them may have been monitors for five years?—I don't attach very much importance to that preliminary training, either as monitor or pupil teacher. We find these coming up at times with little or no idea of the art of teaching.

24120. However, as a matter of fact you have a monopoly, so to say, of the pupil teachers throughout Ireland?—But these are very few.

24121. Who received probably a two years' course in the model schools, and some may have been monitors for five years previously, and ultimately these people come up for two additional years; that would be a nine years' course?—I don't call that a nine years' course. The pupil in the school is employed part of the day in the school teaching, and is paid for it. He is earning his salary and getting his instruction at the same time. I don't call that a training at all.

24122. Who is it recommends the candidates for training as far as you know in the various colleges?—I don't know about the others, but in my own college they are recommended by various people, inspectors, clergymen, justices of the peace, deputy lieutenants, and other gentlemen throughout the country.

24123. Does not each School Inspector recommend

for Marlborough-street?—He generally sends up a list of those who apply to him.

24124. But he does not send a corresponding list for any other college?—I do not know, nor do I care very much whether he sends it to me or not. I should be just as glad he did not.

24125. Coming to your own subjects, arithmetic, algebra, and book-keeping, along with teaching those subjects do you not bring up a class of pupils and show the teacher how to teach the particular subject?—Frequently, but that is the distinctive duty of the teacher of method. I sometimes take a set of students and form a class and sometimes a set of pupils; then the professor of method sees that they actually teach the class.

24126. Is it to be understood that he duplicates your work?—Certainly, he sees lessons taught in these subjects as well as in every other.

24127. Speaking of the examinations in music, is there anything to prevent Mr. Goodman applying practical tests by bringing up a number of students and asking the particular candidate for a certificate to give a lesson in music to them?—Well, that is not included in the programme. I don't know what Mr. Goodman is empowered to do, but I doubt whether he is entitled to test the student by making her to teach the subject to pupils. I think he is not. I am certain Mr. Goodman does what he is entitled to and as much.

24128. I think you mentioned in reply to Messrs. Molloy that no physical science is taught to girls in Marlborough-street?—The principles of hygiene and domestic economy. I took those as distinct subjects. I don't call them physical science.

24129. What is to prevent you in view of the fact that for many years you had a programme published in those subjects?—To prepare for your examinations at the end of the course is our first duty.

24130. Monsieur Mallory.—And in selecting from the optional subjects you select those which are the easiest for the pupils to pass in?—These optional subjects have come in for the first time under that programme, but Mr. Molloy is speaking of years back.

24131. And under this programme, physical science is not a remunerative subject?—No, and under the old programme it was the same for girls, it could not enter into classification, it could be taken as a special subject for which there was a special certificate, but nothing more.

24132. Mr. Morgan.—In view of the fact that they had the elements of physical science taught in some of the model schools, do you not think it no drawback to the Marlborough-street Training College not to have it introduced?—Certainly, but I say means should be introduced for dealing with it.

24133. And that shortcoming has existed for a number of years?—It has.

24134. How many hours in the week are devoted to methods of teaching, arithmetic instruction in book subjects?—It would be very hard to determine, there are a great number, the professors are always at it, they are at it in the schools and lecture rooms, during the entire day teachers are getting instruction in methods, and I should say it is the same in other colleges, and I think if you turn to the examinations at the end of the year, you will find that the result of that teaching was very effective, I think as good as in any other country I know of.

24135. I have before me the result of the July examinations, the number excelled and the number who failed?—There seems to be an extraordinary idea that all the students who pass through a training college ought to pass the examination; I say if they do, that examination is no good.

24136. I thought you said it was a complete success?—Yes, in practical teaching, and that was the report of the head inspector.

24137. Referring to the kindergarten; you spoke of practical kindergarten and I think you offered as

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objection to men being instructed in how to teach kindergarten?—No, I did not.

24138. As a matter of fact, do the male teachers share in the instruction in any way?—No, they don't take part in the kindergarten instruction.

24139. Are the male teachers brought to the infant school to see how kindergarten exercises are carried on?—They are brought occasionally to see all the schools, including the infant school, but that is a different thing from taking part in the kindergarten exercises.

24140. In view of the fact that a great many men are in charge of mixed schools, with a great number in junior classes, would it not be desirable that these teachers should get some instruction in kindergarten?—Yes, even as a means to hand and eye training. I should like very much to see men get some instruction in practical kindergarten.

24141. Rev. Dr. Evans.—Reverting to some opinions you expressed about teaching as the one essential thing in a training college, what is the first qualification that a teacher requires for teaching anything?—Well, he must have a fair knowledge of the subject which he teaches, and then know how to teach it.

24142. The first indispensable element in a teacher's qualifications for teaching anything is to know it!—To know it, and then to know how to teach it.

24143. Would it not seem then to be the first duty of the training college to see that there was an adequate knowledge of the subject to be taught?—That I feel would be a duty of the training college, but a training college is a professional school, and I think its main function is to give professional training. I think students coming to the training college should have a pretty good knowledge of the subjects which they require to teach, and they should get some instruction in those subjects in the college, undoubtedly, but I say the principal function of that college is to teach that man, who is a candidate, to become a teacher, the art of teaching, and that is a very difficult thing to do.

24144. From your experience of Queen's Scholars, Mr. Tugan, what preparation would you say, enter a training college with a sufficient knowledge of the subjects in the programme to enable them to teach them?—That is, to teach in actual National schools?

24145. Yes!—To strike a percentage in a case like that is rather difficult; I should say there are a good many. It does not require a very high degree of knowledge, as far as any subject is concerned, for a teacher to teach the lessons required in a National school. There is a fair proportion of candidates who have sufficient knowledge, but I think it would be well to give them higher acquaintance with the subjects.

24146. Where are they to obtain that adequate knowledge prior to entering the training college?—Take a pupil teacher, a monitor, they have certain courses to go through, they have to pass a certain examination of entrance, and the Commissioners usually assume that by passing that examination they have sufficient information to teach those subjects in National schools.

24147. Assuming that the Commissioners are right, and the pupil teachers and those who have gone through a course of training as monitors have knowledge enough to enable them to teach the curriculum in the National schools, what length of time would be requisite to give training to these people to teach them method?—Observe, I did not say that they had sufficient information that they should be sent out of the college without any instruction in literature and mathematics, I said nothing of the kind. I say that the first eighteen months should be devoted to instruction in those subjects, and to practical teaching in those subjects, and I said the work should go hand in hand, but I say the important element of it is the practical training.

24148. Has the industrial programme for girls in the sixth class been in operation in Marlborough-

street since it was instituted?—Until a few weeks ago.

24149. Then why has it been given up after having been in operation these since it was instituted?—Well, speaking for myself, I am only one of the four acting managers of these schools; I wish I was not a manager at all. I wrote a few years ago that I thought the programme should be modified, it was not modified. My colleagues then were in favour of dropping the programme, I was not. The Board took my view, but the programme was not modified, and there is no doubt that a great many parents who send their children to those schools think that too much time is given to that programme in needlework.

24150. So that it was not an objection to the programme itself, but to the proportion of time that was taken up by it?—Quite so, I think it was quite too extensive for a beginning at least.

24151. Mr. Ruzaruro.—What was the opinion of Miss Fulham, the headmistress of No. 1 Model school?—She was very strongly opposed to it, that is, not opposed to the programme *per se*, but she said it was not taken up in every school in the city, and parents who wished to send their girls into business here in town, as a great number of parents who send children to those schools do, thought their time was being lost in preparing that subject.

24152. That it was not suited to the circumstances of Dublin?—Quite so.

24153. Mr. Moller.—Was not Miss Fulham one of those consulted, and who took an active part in framing that programme?—I cannot say.

24154. Rev. Dr. Wisner.—You mentioned that you would add a third session?—Yes.

24155. Would not that postpone for a year the time that a teacher would be able to earn subsistence?—It would. I pointed out that that would be perhaps a little harsh, but it would be a year very well spent for the teacher.

24156. It would also add considerably to the expenses for the Treasury?—I have no compassion whatever for the Treasury, not the slightest, I don't regard that aspect of the question at all. I think we ought to get much more from the Treasury.

24157. Are you supplied with sufficient material to give object lessons?—Yes, there is no difficulty in obtaining materials for those things, not the slightest; we have money for that purpose.

24158. Are the teachers, as a rule, able to teach kindergarten when they go out?—The female teachers at fairly well, they don't all get certificates, but I think the certificate in itself is not an infallible test. If a teacher, for instance, makes 47 per cent. at an examination, and 50 per cent. is required for a certificate, it does not show that such a teacher is not able to teach kindergarten perhaps as well as the teacher who got 50 per cent. The test of failing to get a certificate in a subject, does not show that the teacher is not capable of teaching that subject.

24159. I think I may say that our experience and observation in going round from place to place, leads us to think that kindergarten is very important, so I should be glad to know that the teachers are able to instruct in it?—No doubt it is very important.

24160. How many of those you send out at present would be able to teach cookery?—Everyone, for the last four or five years, every girl trained in the department of which I have charge, has got a certificate in practical cookery. I don't think there has been a failure in that for very many years, except that some years ago, when Dr. Delbert used to examine for that certificate, 30 per cent. used to fail, but I am glad to say since he ceased to examine, all the students pass the examination.

24161. As to darning, how many of your pupils would be fit to teach darning?—Well, butter-making is what we teach them: the time given to that is not under the present arrangement very much, they get fourteen hours during a session in the senior division, and eight hours in the junior division, that is, during

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the session, a student who is two years in the college, will get twenty-two hours instruction. They are able, I should say, to make better very fairly.

24164. *Rev. Dr. Evans*.—As to the amount of teaching and training, I quite agree with your view; the very name of training college means you have those under you to train them how to teach; of course there must be a substratum of knowledge on which to rest, but the important part is the art of conveying that knowledge, teaching it to pupils, and that you bear in mind?—We do, certainly, Dr. Deherly, who has charge of that was, and is, a distinguished teacher, and since he got charge of the subject in 1893 or 1894, it has been a very great success indeed.

24165. *Has Dr. Deherly the training of the females as well as the males?*—Yes, I assure; of course he is responsible.

24166. *Most Rev. Dr. Walsh*.—There were some questions put to you about the number of untrained teachers in Ireland, with a view of seeing whether something could not be done for those teachers in the way of training; I think 2,000 was mentioned as the present number of untrained teachers?—Yes.

24167. Kindly look at this official Report of the Commissioners of National Education. Look at that table in the Commissioners' Report, page 30 of the Report for last year—can you tell me, from it, what is the present number of untrained teachers in the service of the National Education Board in Ireland?—It seems here to be 5,619.

24168. That is the number. Now, you speak, I think, of the untrained teachers as probably old teachers?—Well, I should say a fair proportion.

24169. Now, let me ask you to look at another part of the Report, at page 29, the table which gives the number of vacancies in the office of teacher, occurring from year to year. This table also gives the number of trained teachers coming out each year from the training colleges. If you look at the bottom of the columns in that table, where the figures are totted up, you will see that, during the last ten years, the training colleges turned out, as trained teachers,

2,235 students not previously employed as teachers?—Yes.

24170. Do you not also see that during the same ten years, the number of vacancies that had to be filled was 5,031, so that within those ten years, 2,196 untrained teachers had to be appointed?—Yes.

24171. Then, as so many as 2,196 untrained teachers have had to be appointed even within the last ten years, we are not at all to assume that a very large proportion of the total number of 6,619 untrained teachers in Ireland, may not be comparatively young?—Quite so; but I should say all these young teachers ought to undergo a three years' course.

24172. Let us be practical. The training colleges at present are as full as they can be; but, nevertheless, during the last ten years, the supply has fallen short of the demand, to the extent of 2,196 teachers?—You are not training enough teachers for the demand.

24173. Plainly you are not. That is, what I want to bring out. Every year there are hundreds of untrained teachers being placed over the schools?—Yes.

24174. It is plain then, that a fair proportion of the existing untrained teachers may be comparatively young?—I should say a number would be.

24175. Taking them all, young and old as they may be, would it not be desirable if something could be done to give them the benefit of some kind of training?—Undoubtedly.

24176. Suppose we distinguish between the two functions of the training colleges, as at present worked, one, under which a great deal of time is given to teaching certain subjects, the other, under which a comparatively small time is given to instructing and training the students of the colleges in the art of teaching these subjects afterwards in their schools, suppose—as we cannot do everything for those untrained teachers that we should wish to do—then a system was established in which we could give them, at all events, the main thing, a course of instruction, even a short course, in the art of teaching, would not that be a great advantage?—It would be a decided advantage.

J. J. DONNERY, LL.D., Principal, Marlborough-street Training College, Dublin, examined.

24177. *CHAIRMAN*.—You are the Principal of the Marlborough-street Training College?—The male department.

24178. And you have come here to speak on certain matters which are in the memorandum you have handed in, with regard to what we may call hand and eye training, and things in that connection?—Yes.

24179. First of all, with regard to hand and eye training, what do you say with regard to the extension of it?—Well, as my colleague has pointed out, all our female students receive instruction in kindergarten at the present time, in our colleges, and I would like to see the extension of kindergarten exercises forming what we may call elementary manual instruction—what is called in English schools, hand and eye training—introduced into our college, and all our students, male and female, should be required to go through a course of this hand and eye training.

24180. How do you distinguish between the alternatives of hand and eye training and object lessons?—This hand and eye training is, no doubt, familiar to the Commissioners as they have seen it in a number of schools that I understand they have visited. Object lessons form an elementary science teaching of various distinct objects and ordinary phenomena. With regard to this object teaching, I would like to see it introduced into all our schools, indeed, made compulsory, both for boys and girls. With regard to this elementary course of manual instruction I would like to see it also introduced into our National schools, and, possibly, if a teacher would elect to take object lessons, that might be regarded, for the present at least, as sufficient.

24181. I want to ask you how far taking manual instruction to consist, first of all, of drawing, then easy cardboard work, and then coming up higher to woodwork, only taking those specimens, how far would you make any or all of those compulsory?—I would not take woodwork at all in this elementary hand and eye training. I would confine this elementary portion of the hand and eye training to simple geometrical drawing, scale drawing, construction of simple geometrical figures, paper folding, lath laying, paper mounting, designing, and, perhaps, as the furthest extension of that, cardboard modelling; but I would reserve woodwork for what I would call manual instruction proper, and confine it to the senior classes, and I would not make it obligatory in our schools.

24182. In any case?—In every case I would make it optional.

24183. Would you make cardboard work obligatory in its proper class?—I think it is a very useful exercise, and I would regard it as a portion of the elementary manual training that should be made compulsory.

24184. And that is a thing that could be done without any expensive apparatus?—Yes, that is one of the reasons why I would like to see it made compulsory, because the expense would be trifling, and in the case of extended manual instruction, such as woodwork, the expense would be considerable.

24185. How do you think that the programme could be altered so as to give time for these objects?—I don't think it would be necessary to alter the programme to any great extent, because in the case of the junior

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classes in the schools it would be very easy to find time for it, I am speaking now of the schools connected with our training college. There would be no difficulty at all in introducing these manual exercises—this hand and eye training—into a portion of the work of our students in the college; there would be no difficulty at all to find time for that.

24184. Now, as regards the schools apart from the training college?—With regard to the schools throughout it is chiefly wanted for the junior classes, and unfortunately my knowledge of the National schools of Ireland leads me to think that the children in the junior classes are to a great extent left to themselves; there being often only one teacher be is not able to look after them properly, and they are left to a very considerable extent preparing lessons, or at school subject, which have no very great training influence upon their minds. It would be quite possible to take two three quarter hour lessons each week and devote it to hand and eye training without interfering at all, or interfering to a very slight extent, with the instruction that is at present given in our National schools to the junior classes.

24185. What do you say with regard to the method of examination in either course?—With regard to the examination in object lessons, or with regard to the examination in manual instruction, I would strongly recommend that it should not be a results examination. The Inspector could come in, could see the classes at work, could see the results of their work, which would be preserved for him, could see the teaching going on, could ask some questions in order to see whether the pupils had followed the teacher; but it should not be a results examination, and the payment of the teacher should not be based on the results of the examination by the Inspector.

24186. Now with regard to the training colleges, I want to know your opinion as to how far the male students in the training colleges should receive a practical training in more advanced manual work, consisting of simple geometrical drawing, drawing to scale, elevation and sections and simple models, the use of tools in woodwork, and exercises and models in woodwork?—In my opinion all our male students should receive a course of practical instruction in this advanced manual work.

24187. Do you think that advanced manual work should be one of the obligatory subjects for examination at the end of the course?—No, I think that should be left optional. I think all the male students should be required to take up the subject, but I would make it an optional subject for examination. If any of the students took a great delight in the subject and felt he could do well at an examination in it, he might choose it as an optional subject at his examination. He is bound to take one optional subject, and that would be one that I would give him liberty to select.

24188. What are your reasons for saying that?—In the first place we find that a number of our students do not take a very great interest in the subject. As regards its introduction into National schools especially, I would not make it obligatory upon the teachers, because in my opinion the subject of advanced manual instruction—woodwork—can be introduced into comparatively few of our schools. The expense connected with workshops and providing materials and tools in my opinion excludes the subject from our National schools generally. And it is only in a few cases where special provision could be made for it that this woodwork could be introduced with advantage, therefore I would not make it obligatory on our students, because very few of them would be called upon to teach it in after-life.

24189. Do you think that the senior classes, four, five, and six, in every National School, both boys and girls, should be required to take some form of manual training, or some one subject suited for testing their powers of observation?—I do.

24190. What subjects do you suggest for boys?—If they do not take up manual instruction, which in my opinion might be regarded as a sufficient—that is advanced manual instruction—and in my opinion this will be taken up in only a few schools—

24191. Most Rev. Dr. WALSH.—We are getting, I fear, into confusion about some of the terms that have to be used. Manual instruction is one of them; as you now use it, you refer, I think, to woodwork?—Yes; I would say that boys and girls might take up such subjects as gardening, mechanics—meaning the mechanical laws of solids and fluids—one or more of the experimental sciences, and one or more of the natural sciences, and for girls only such as needle-work, cooking, and domestic science.

24192. CHAIRMAN.—What mode of examination do you suggest in these subjects?—In all of these cases I would strongly recommend that the examination should not be a results examination, but an examination by inspection. I don't consider results examination in all cases, but I think in the case of such subjects where it is not so much the amount of information that the pupils obtain, but the mode of gaining that information, which is the all-important matter, that then the examination should be an inspection by the officers of the Board seeing the work done, questioning the pupils to some extent to see how they have followed the teacher; and that then the payment should be based, not on a results examination, but on the Inspector's opinion with regard to the ability and energy with which the lessons had been taught to the pupils.

24193. What do you consider to be the relative advantages of manual instruction and science as school subjects?—I prefer, on the whole, science training, which has special advantages. The science training would develop the intellectual powers to a very much greater extent in my opinion than the manual instruction would do, and also it may be made to afford a considerable amount of manual instruction. If a pupil is engaged in any of the physical sciences, say magnetism or electricity, he can construct little experiments, and the teacher ought to show them how to construct these experiments. A very considerable amount of manual work can thus be carried on by the pupils themselves, aided by the teacher in the actual work of science instruction. But comparing manual instruction with science instruction, there is a less stress placed on both teachers and pupils in manual instruction, it is easier to get the pupils to join in it, and it is easier to keep it going, it gives practice in manual work, cultivates power of hand and eye, teaches accuracy and perseverance, and therefore I consider it an extremely valuable aid to the teacher's work.

24194. With regard to gardening, the male students of your college now receive instruction in agriculture and gardening at Glasnevin?—Yes.

24195. Do you think that the work in gardening might be extended and made a separate subject?—I would like to see it made a separate subject, it is at present taught as a portion of a much wider science, agriculture. A comparatively small amount of time and attention is given to the subject of gardening. I think that gardening might be made a separate subject by itself. I think it might be introduced, not absent into the training colleges, but into our rural schools throughout the country. Agriculture, in my opinion, cannot be taught very efficiently in a National school; but as every teacher has a garden associated with his school or near it, I think a practical knowledge of gardening might be very readily given to pupils of National schools.

24196. And you think that female students should receive instruction in gardening during their residence at Glasnevin?—Yes, and this subject might also be introduced into female schools.

24197. What do you say with regard to the programme for the junior classes, 1, 2 and 3, as regards object lessons, and what time do you think should be

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given to the subject?—The subject of gardening in 1, 2, and 3 class should be treated in the form of object lessons, the pupils collecting flowers and grasses, and plants of various kinds and vegetables. The lesson should deal with each particular object as an object lesson, and be given by the teacher, the pupils writing out their notes upon the lesson, and preserving them for the inspector. Similar lessons should be given upon the function of the root, leaf, and so on. If such a lesson were given once a week, another lesson, as a repetition once a week, might be given where the teacher might have a conversation with his pupils over the object that had been treated of in the previous lesson, and then get them to write down everything they had learned upon the subject.

24198. What time could be found for this class of teaching?—I think either half or three-quarters of an hour, twice a week, for that subject in the junior classes. These would be object lessons; and there might be also object lessons taken up in connection with other subjects upon elementary natural phenomena, and in that case I would allow in the school about two half hours a week for object lessons in elementary gardening.

24199. How would you conduct the examination?—In all these cases I would like to see the examination conducted by inspection, the inspector listening to the teacher giving the lesson, seeing how the lesson is given, looking at the result of the work for the past session, and reporting whether, in his opinion, the instruction was good and worth the payment.

24200. With regard to the senior classes, would you extend this rather?—I would make an extension of it into gardening proper, treating of the functions of the various parts of plants, culture of plants, formation and care of flower-beds; and the subject of window-gardening should be taken up, and in the more advanced classes the culture of roses, and fruits, and grafting.

24201. Would you give the same amount of time, or more?—I should say a three-quarter hour lesson twice a week would be sufficient.

24202. And you would conduct the examination on the same principles?—In the same way, and this would be of a practical character, I would require that the pupils should actually work in the garden, the whole class taking charge of one particular bed or portion of a bed.

24203. Would you make this compulsory or optional?—Optional; I would leave it optional with the teacher to select some one science subject or advanced manual instruction, but I would make some one subject that would develop the thinking and observing powers obligatory upon all teachers.

24204. Do you think that an elementary course of mechanics of solids and fluids should be obligatory for the male students in the training colleges, and should form a part of the course for examination?—I do. I consider that it is so important a subject that it ought to be made obligatory upon our male students. I would make obligatory some one or more of the science subjects to be selected by them.

24205. But in the case of teaching in National schools, would you leave it optional?—I would regard it as one of the subjects that might be chosen by the teachers. In the junior classes it might be treated as a series of object lessons upon familiar tools and instruments, and the application of these, and in the senior classes I would like to see it treated in the regular course—the mechanical laws of solids and fluids.

24206. What time would you give to the subject?—The same time as that given to the others—in the junior classes half an hour twice a week, and in the senior classes perhaps either half or three quarters of an hour twice a week.

24207. And you would conduct the examination

in the same way?—I would conduct the examination in the same way.

24208. With regard to the experimental sciences, would you deal with them in much the same way?—In much the same way.

24209. First, as regards the training colleges, and, secondly, as regards the schools?—Yes, in addition to the mechanics I would recommend that some one of the experimental or natural sciences should be taken. We cannot take the whole of them, and those that will be chosen will depend upon the professor who is able to undertake the subject in the training college, but some one of the experimental or natural sciences should, in my opinion, be taken up in the training colleges.

24210. Meaning by that magnetism, electricity, sound, light, heat, and chemistry?—Quite so.

24211. In the National schools you recommend that the study should be confined to the senior classes?—In the case of some of these science subjects I think it would be better to confine their study to the senior classes; there is no difficulty at all in obtaining a series of object lessons for the junior classes, and of course some of these object lessons might deal with some of the subjects of magnetism or chemistry.

24212. Do you think that the mode of study should be by experiment?—Entirely experimental; the whole subject should be treated experimentally before the students of the training college, and should be treated experimentally before the pupils by the teacher of the National school.

24213. You hold the same views with regard to the teaching of botany, zoology, and geology?—The same.

24214. Turning to girls in National schools, what remark do you make on needlework, cookery, and domestic economy?—In our training college we take up all those subjects. I should like to see it continued much in the same way in the future as in the past; in the case of agricultural school any one of these subjects might be made the senior subject, obligatory on all teachers of National schools.

24215. Do you think, as regards the subject of drawing, simple geometrical drawing, in addition to freehand or object drawing, should be obligatory for all students, male and female, in all the training colleges, and also in the National schools of all classes, both boys and girls?—Yes, I am strongly in favour of introducing elementary geometrical drawing for all our students and for all pupils in schools.

24216. Most Rev. Dr. WALKER.—I think, Dr. Dehnbre, we may take it from your evidence that you have read some of the evidence that we took in England?—Portions of it.

24217. And I see that you are fairly familiar with the branches of school work that go on in Birmingham, and probably in other English towns, under the name of hand and eye training?—Yes, I have seen these schools in operation.

24218. Amongst the exercises in hand and eye training that go on there, you mentioned paper-folding and cardboard work; you did not mention wire-work, I think, but I am sure you know that it is part of the system of hand and eye training that you so highly approve of. You approve of the introduction of these branches of school work into the National schools of Ireland?—I do.

24219. Do you not think that if we introduced these exercises in paper-folding and paper-cutting and cardboard, a great many ill-informed people—ignorant people, to put it plainly—would not about turning the whole thing into ridicule?—No doubt, at first.

24220. They would set up a cry that the children, who ought to be engaged in what they dignify with the name of literary education, were squandering their time cutting up bits of paper?—We must be prepared to hear such criticism.

24221. But I assume you would not be deterred by that?—I would not.

24232. You are aware of the important distinction that is made in Birmingham and other such places between what is termed "Hand and Eye Training" on the one hand, and what is termed "Manual Instruction" on the other?—Yes.

24233. By "Hand and Eye Training" they mean those branches of practical instruction that go on in the junior classes?—Quite so.

24234. And by manual instruction, as distinct from hand and eye training, they mean educational woodwork and metal-work?—Yes.

24235. The former of these you would wish to see made obligatory?—Quite so.

24236. And the latter you would not?—I would not.

24237. And this is because you see it to be obviously impossible to introduce the subject into many of our schools?—Quite so.

24238. Of course it would be impossible, for instance, except in extremely exceptional cases, in a country school where there is only one teacher?—I would not say impossible.

24239. Well, I mean, practically impossible?—With regard to our country schools if there was a master?—

24240. I think we are agreed. You recognise that it would be exceedingly difficult?—It would.

24241. And the case would be exceptional where it could be done at all: it would require a very enterprising and industrious teacher?—I was going to say he should be an enthusiast.

24242. CHAIRMAN.—Do you know that as a matter of fact there are one or two such teachers?—I was not aware.

24243. Most Rev. Dr. WALSH.—But these are plainly exceptional cases. However, as to larger centres of population, towns and cities where the schools are larger, no such difficulty would exist?—No.

24244. You consider that it would be an advantage if the introduction of woodwork, for instance, was encouraged, without having it made compulsory, in city schools?—Decidedly.

24245. I am aware, Dr. Doherty, that you have a very wide experience of school work under our existing programme?—A large experience.

24246. Now, taking the "Handicraft" programme, do you approve of it?—Well, so it is drafted in the revised programme of the Board I approve of it, because it was myself drew it up.

24247. You are speaking now of the revised programme recently issued by the Commissioners of National Education for the examination and classification of teachers. That is a totally new thing. My question had reference to the school programme, the programme that was drawn up when the new subject of handicraft was introduced, I think it was in 1885. What do you think of that programme?—Surely you do not approve of it?—I do not; it was not educational.

24248. It seems that under this programme, as we are aware, woodwork is taught without any reference to drawing?—That is a mistake.

24249. Of course it is a fundamental mistake. But it appears that, under that programme, there is nothing to hinder a teacher from getting a certificate authorising him to teach handicraft under the rules of the Commissioners of National Education, even though unfortunately he knows nothing whatever of drawing: that was possible under the state of affairs that has hitherto existed?—Yes.

24250. Of course you agree with me that it ought to be made impossible in future?—Quite so. I may remark with regard to our certificates, that handicraft, as it is called, was introduced into our establishment before the Eloyd system was known or in operation in England. Our handicraft course has been at work with us for fifteen or sixteen years, but we never intended it to do more than develop handiness and give some standing and importance to manual work.

24251. I understand that fully. But the handicraft system, as you have it, was not constructed on scientific lines, as any system now introduced would be. In the new programme for the examination and classification of teachers, full provision is made for drawing in connection with woodwork?—Quite so.

24252. CHAIRMAN.—Is it a necessary provision?—Yes. It is expressed that the models are all to be made from previous drawings made by the pupils.

24253. Most Rev. Dr. WALSH.—We are now speaking of the new programme for teachers recently issued by the National Education Board, that programme is all right, at least in this respect?—Yes.

24254. Now, Dr. Doherty, in reference to another matter. I think you said that you could reconstruct the school time tables so as to provide for the introduction of the new branches of manual and practical instruction, without sacrificing anything in the line of mere bookwork, that was really of importance?—I think so.

24255. I think you said that without sacrificing anything that was really of importance at the bookwork side, you could provide $\frac{1}{2}$ hour a week for this manual and practical instruction?—Quite so.

24256. You may take it that in England two hours a week is considered sufficient for this special work?—Does that mean manual instruction only?

24257. Here again we are getting into some confusion about words: in England they use the words hand and eye training for what goes on in the lower classes, up to the point where woodwork comes in, then they begin to speak of manual instruction. Now as to the hand and eye training?—I am only allowing $\frac{1}{2}$ hour for that.

24258. And that time can be given to it without sacrificing anything that is really of importance in the bookwork, or "literary instruction" as we usually hear it called?—Yes.

24259. Is giving that answer you have, of course, considered the matter in all its bearings?—I have.

24260. You are a teacher of long standing?—I am.

24261. And you are the Professor of Method in the Training College of the National Education Board?—Quite so.

24262. Well, so much for those points. I think, Dr. Doherty, you said that, as regards the higher classes in the National schools, whilst you would not make woodwork obligatory in the schools generally, you would insist upon their having either woodwork or some other subject of a practical character?—Quite so.

24263. In connection with that, you spoke of elementary science, and you said, I think, that as regards the teachers, some specific branch of natural science should be taught to them?—Some branch of experimental or natural science.

24264. Let us take the science that is to be taught in the schools: kindly look at this programme: it is the English code for 1897?—I know it.

24265. You will find there, on page 46, a number of alternative courses assigned for elementary science in the schools. If you look through them I think you will find that nearly all of those are courses in specific subjects?—Quite so.

24266. There is one in mechanics, one in electricity and magnetism, and so on. But now look at course H in that section: what is the character of that course; does it deal with any specific branch of science, and not rather with science in its general aspect?—Science in its general aspect.

24267. Do you not consider that this is really the most useful form in which the teaching of science could be introduced into our schools?—I do think so, and not alone in the schools, but in the Training Colleges; and, as a matter of fact in our Training College in Marlborough-street, we have always carried on a system of instruction in general science.

Dublin.
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Professor
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Professor
Bilsey, D.D.

24258. At all events you agree with me that provision should be made in our schools for that general science teaching?—I do.

24259. And not only in the schools, but that in the Training Colleges the students in training should be trained to teach it?—In the schools we must limit the amount that would be fairly asked from the teacher.

24260. But observe: my question does not at all regard the amount, it regards only the character of the teaching, the range of it: would you limit the range of it, that is, would you confine the teaching of science to some one branch of natural science, so that the children would know a little about sound, and nothing at all about heat, or light, or mechanics, or electricity, or a little about mechanics, and nothing about sound, or light, or heat, or electricity, and so on?—I would leave that so far to the teacher: I think a great deal must be left to the teacher: you must utilise the teacher's natural powers and enthusiasm, and his love for a particular subject. If a teacher has a great love for chemistry I would let him take it up as his subject, if he had a great love for magnetism I would let him take that.

24261. I quite appreciate that: you are aware that in England a great deal of latitude is allowed to the teachers?—I am.

24262. As this may come to be a matter of practical importance for us in Ireland, I should wish to know your views about it in detail. Are you aware in what precise form that latitude is allowed to teachers in England?—No.

24263. I think you will find that a teacher who wishes to teach a course that is not specifically provided for in the Code issued by the Education Department submits that course to the Inspector of the district, and if the Inspector approves, the teacher is then allowed to teach it?—I think that is a very wise arrangement.

24264. And if there is anything in it that is considered likely to be of general use, it would probably be put into the Code, with the seven or eight optional programmes that are already specified there, as a guide to other teachers?—That is very wise.

24265. You may not be aware, moreover, this although there are seven or eight of these set down in the English Code, the teachers are not restricted to those courses: they have the further liberty which I have already described: don't you think that it would be a very great advantage to us in Ireland if we had the programme made more elastic than it is, made more elastic in some such way as the programme is in England?—Precisely.

24266. I believe that our Irish programme is not elastic at all?—It is too rigid.

24267. Now, you also spoke of another important subject, the examination that should be held in the various branches of manual and practical instruction; you would not have it a results examination, earned out on the present lines?—Not so far as those subjects are concerned.

24268. You would have, you said, an examination by inspection?—Yes, the Inspector would be present, he would see the teacher giving a lesson, he would listen to the conversation between the teacher and the pupils; he would see the work that had been preserved from previous lessons during the whole session, he would put some questions to the children, and finally he would judge as to the value of the instruction.

24269. And then the grant to be paid would be fixed by a capitation rate, or by some other such arrangement?—Yes.

24270. That would, in a sense, be payment by results?—I am not opposed to the results system, pure and simple; I have heard it condemned, and it is said it is utterly abandoned in England; but I am old enough to remember the introduction of the results system into this country, and I have no hesitation in saying it gave a vast impetus to the subject of

education in our schools, and did a vast amount of good, but then it has also done harm.

24271. Precisely. You see what a gross error it would be to say that because the results system is an imperfect system, and is now undoubtedly doing a certain amount of harm, it should never have been introduced?—I would not agree with that view at all.

24272. We have important evidence precisely to the same effect in England. Possibly you may now be able to dispense with it, as a result of the vast amount of good it has done, the stirring up that it has given to the state of things that existed before it was introduced?—Yes, or it may be dispensed with, at all events, in certain subjects.

24273. You remember, of course, when it was introduced, do you consider that its introduction was, at the time, a move in the right direction, and that it did a great deal of good?—I am convinced of that.

24274. You consider that it improved the character of the work in the schools, but of course a thing that is good in particular, and more or less exceptional, circumstances, may not be a very perfect system in point of principle: it may be the only thing available as a means of getting work done in certain circumstances, but possibly its best recommendation in the end may be that it has brought about a state of things in which it may be dispensed with?—Yes.

24275. The system of payment that you suggest for the branches of manual and practical instruction would be a system of payment by results, but it would be a system of payment, not on the results of the answering of the individual pupils, it would be based rather on the merit of the work of the teacher, as observed by the Inspector?—Quite so.

24276. Now I should wish to ask you some questions about the work of the training colleges: you are Professor of Method in the Commissioners' Training College in Marlborough Street?—Yes.

24277. Has it ever occurred to you that in the teaching of the different subjects by the different professors in the training college, the method of teaching these subjects afterwards in the schools ought to be included in the work of each professor?—Undoubtedly, and so it is.

24278. Why then is there a special professor of method in our training college system?—Well, because, although method is included in the work of each of the professors, it is only a portion of his work, he has to devote a very considerable amount of attention to his own special subjects, in getting his students to have a knowledge of those subjects, independently of showing them how to convey that knowledge to others.

24279. Perhaps I had better come at it in another way. May I ask you what particular subject you teach?—My subject up to last year was experimental physics.

24280. And that subject has unfortunately been killed by the new programme for the teachers, which we have heard commended on several other grounds?—Killed for this year, but we expect it will be only for this year.

24281. Well, let us hope so. Now, taking things as they are, what are the special subjects that you are professor of in the Marlborough Street College, now that experimental physics is killed, for the time, or, let us say, now that it is in a state of suspended animation?—My subjects now are practically this subject of Method.

24282. So that, experimental science being disposed of by the new programme, you have now as special subject?—Except lecturing on method and the science and art of teaching.

24283. It is important for us to know exactly what is covered by the word "method"?—We went into a certain training college, not in this country, whilst the Professor of what was known there as Method was giving his lecture, and, so far as I could

see, what he was lecturing on was the method of examining pupils!—That is a low view of the subject that we never take in our training college.

24284. Then you resist a strong temptation. Now as to method, as I understand it. It comprises two things. There is the method of teaching a school; and the method of conducting a school, in the sense of keeping records, and filling the school rolls, and so forth; all this book-keeping as I may call it—is a very complicated and difficult thing; you have to teach all that!—Yes.

24285. So that, although you are professor of method, a great deal of your time has to be given to something outside the really important work of instructing the students in the art of teaching!—In our college we have a very good arrangement in that respect, the head teachers connected with our model schools relieve me practically of the greater portion of this merely mechanical work of telling the students how to keep the rolls and the register.

24286. Coming now to the teaching of method in what I regard as the really essential sense, is the capacity of the Queen's scholars to teach the different subjects in which they are themselves instructed in the training college really tested under the present system?—Yes, I would say so.

24287. Who tests it?—A head inspector is appointed by the Board to come at the end of each training session, and he tests every individual student.

24288. In every individual subject?—Not in every individual subject.

24289. Then in what subjects are they not tested in this vitally important matter?—Each individual student would not be tested in all the subjects.

24290. I am not putting it in that way. The main point is whether every subject is provided for in any really effective sense in the present system. Who tests them, for instance, in drawing?—The only test that is actually applied in drawing, is merely an examination which tests the students' powers to make a drawing.

24291. But you see that my question is upon a totally different matter. I am speaking not of their capacity for drawing, but of their capacity to teach drawing. In the elements of practical instruction, drawing is one of the most important subjects we have to provide for. Now who tests their capacity of teaching, for instance, in this important subject of drawing?—There is no test applied by an inspector at the end of the course, but the principals of the college see that the subject of drawing is not alone taught to the students during their two years' residence with us, but that they are taught by the professor of drawing how to teach the subject.

24292. Am I right then in inferring that it is no part of your business as professor of method to deal with this important branch, and to see whether the students trained in the training college are fit or unfit to teach drawing?—But it is my province as principal of the college.

24293. I am speaking of your business as professor of method?—It is. My students have to teach before me.

24294. To teach drawing?—They have and do so.

24295. But, Dr. Doberty, is their power of teaching drawing really taken into account in giving them their final teaching certificate?—Their certificate for teaching drawing—no.

24296. But surely you recognise that it ought to be!—Undoubtedly.

24297. I need not say that no one can consider that you are so blame for what is wrong in the present system?—Well, I would like to point out that even with regard to the subject of drawing, the method of teaching the subject is not neglected in our college.

24298. But you will agree with me that sufficient importance is not attached to it, in the giving of the teacher's certificate?—I mean that it seems an extraordinary thing to require a certificate before a teacher

is allowed to teach drawing, and at the same time to give people certificates to teach drawing without doing anything whatever to ascertain whether they have any power of teaching it or not!—Certainly.

24299. Now there are a few other matters I should wish to ask you about. First, do you think it advisable in the training colleges to give so much time as now seems to be given to the teaching of geography?—I am not right in saying that geography is taught as a subject in your college, as I suppose it is in all the training colleges?—It is.

24300. That is, not merely the most approved methods of teaching geography, but geography itself as a branch of knowledge, just as it is learned at school?—Quite so.

24301. Don't you think that geography is a subject that might be to a large extent dispensed with?—I think that for the Training Colleges it is now fully enough dispensed with by the new programme issued for the examination and classification of teachers last year by the National Education Board. These regulations provide that if the first year's students distinguish themselves at the examination in geography at the end of their year, they will not be required to take it up at all in the next year.

24302. In column 2 of the new programme the examination in geography consists of three sections. Take only two of them—"The British Empire (Political and Descriptive)", also its commercial aspect, and then "Physical Geography—mountains, plains, rivers, deserts, winds, climate, tides, and currents, that seems to cover an enormous range of matter!—Yes, but very important.

24303. Important, no doubt; but is it of such importance that it should occupy all the time that it must occupy in a Training College?—There is one great advantage in it. It is taught to our female students as well as to our male students, and mathematical and physical geography is really a science subject.

24304. But a great deal of what they are taught is what is already printed in books?—No doubt.

24305. Lots of mountains?—Not in physical geography.

24306. But there are a great many mountains in the British Empire. In the section on Physical Geography, it is merely the nature of the mountains, their formation, and so on?—Yes.

24307. Take the descriptive geography: so it not open to examiners to ask the height of some particular mountain?—No examiner would now, I think, give such a question.

24308. But it is open to an examiner to ask the question: if it is open to him to do so, the unfortunate students must be prepared for it!—Beyond doubt it is open to the examiner.

24309. Now do you think it advisable that the students should be left in that position, that they are not really safe in going into an examination unless they know the heights of ever so many mountains, and the lengths of ever so many rivers?—That is fairly provided for in our examination papers, all the questions are not obligatory on the candidate.

24310. At all events, in so far as geography has been cut down in the new programme for teachers, you think that an improvement?—I do.

24311. Some reference, I think, was made to the programme known as "the industrial programme," in your Training College or in the practicing schools attached to it, that is to say, the Central Model Schools in Marlborough street?—I believe that so far as that college and those schools are concerned, that programme is now abandoned!—It is now abandoned.

24312. Last there should be any mistake on the point, as it will go to the public, it might be well to clear this up. When you say that the "industrial programme" is abandoned, you don't mean that the teaching of needlework, for instance, is given up in these schools?—By no means.

Dublin.
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Jan 18, 1907.
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Professor
Doberty, M.P.

Dublin.
Nov. 16, 1907.
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Professor
Doherty, Esq.,

24313. In what sense then do you speak of the abandonment of this industrial work?—The industrial programme is a technical name we apply to a special programme introduced for the 4th class girls.

24314. And that is a course in which two hours a day have to be given to needlework—in other words, ten hours a week?—Quite so.

24315. That is now found by experience to be a very excessive allowance?—Yes, it is too large. We now only give the hour which is still compulsory every day.

24316. And giving only one hour a day to it, you are satisfied that the work of that department is still done, and done to a quite sufficient extent?—Yes.

24317. Although what is technically known as the industrial programme is abandoned?—Yes, in fact in my opinion, there is a little too much needlework, even at the present time.

24318. Sir Joshua Fitch, in answering some questions that I put to him in London, told me that he believed there was a great mistake made in schools in the way that needlework was dealt with; it is dealt with, he said, rather as a means of occupation than as an educational subject. Now, would you go the length that he went to on this point; he said that perhaps two hours in the week would be quite as much as could be profitably given to needlework, from the educational point of view?—I would perhaps give three hours a week.

24319. But, at all events, not more than three hours?—Not more than three hours; I think it becomes almost entirely mechanical after a little while.

24320. Sir Joshua Fitch put it in this way, or at least fully assented to this way of putting it, that as regards needlework that the work of the elementary school was twofold—first, to teach the art of needlework, and secondly, to give a sufficient amount of exercise or practice in the art, just as much practice as is needed to make that teaching effective, does that express your view?—Quite so.

24321. Mr. Ramoneros—As present needlework is compulsory for girls in National schools; would you make any other subject of a practical character compulsory for them?—I would; in addition to needlework, I would make some such subject as cookery or domestic science.

24322. Would it be possible to make cookery compulsory in a large number of schools?—I have given a great amount of attention to the subject of cookery, and I think there is no difficulty in introducing the teaching of cookery if it only received encouragement into any of our National schools throughout the country.

24323. What about the difficulty of providing materials?—We solved that at Marlborough-street; we found no difficulty, the classes in Marlborough-street have been self-paying, so far as the girls are concerned, there was no difficulty at all. The way it was done was, the lecturer in cookery purchased the materials, the children themselves performing the demonstrations, and cooking the different dishes, and then these dishes were sold to the pupils at the actual cost of the materials, and there were frequently greater demands for particular dishes than could be supplied.

24324. Do not the pupils sometimes cook the dishes?—The pupils always cook the dishes.

24325. Can you get sale for dishes cooked by pupils?—The pupils themselves were willing to buy them; they would be glad to buy them and bring them home to their parents to show their handiwork.

24326. But the first dish cooked by a girl cannot be very satisfactory?—Of course in some cases there would be a failure.

24327. Do you think the teaching of cookery could be extended in rural districts?—I think so, and it would be very advisable, indeed, to introduce it into our schools.

24328. Would you find people willing to buy what is cooked in the same way as you can in towns?—I think so.

24329. It was suggested to us that the teacher might cook her dinner before the pupils, and in that way might get over the difficulty of providing materials?—I had never occurred to me, and I think that would not be a bad arrangement. But, as a matter of fact, in our schools—I made special inquiry into that matter—there was no difficulty in getting the pupils to purchase the dishes that were cooked, except perhaps in one or two instances, and the classes were thereby self-supporting.

24330. Can you mention some other subject as an alternative to cookery?—Domestic science.

24331. What is domestic science?—It covers a wide range; it would take up of course everything about washing the tea things, arranging the tables, making beds, some small amount of cookery, not going into it very extensively; some small amount of subjects dealing with ventilation.

24332. Would it be taught from a text book?—Taught almost entirely by the lectures of the teachers. The difficulty with domestic science has always been to make the whole lesson a practical one as we can do in cookery. But although the making of beds cannot be taught practically in a school, yet, since the children would have the experience at home, and since their attention would be directed to this experience, and since they would be asked by the teachers to make the beds and carry out all the instructions in their homes, the practical instruction would thus be carried on at home, while a great part of the theoretical instruction would be given in the schools.

24333. Do you think that theoretical instruction ought always to be illustrated by practical experiments?—Yes, so far as possible.

24334. Then, as to the boys, you think that for the senior classes either woodwork or some other scientific subject should be introduced?—Both for boys and girls, I would insist, the woodwork to boys, but girls could learn the scientific subject just as well as boys.

24335. And you mentioned gardening as one of the subjects?—Yes, for either girls or boys.

24336. Do you think together with gardening they should be taught elementary botany?—Botany would be one of the sciences that might be taken up specially by itself, but in the case of gardening, elementary botany would have to be taught, and in the junior classes I would like to see that taught as object lessons.

24337. Would you approve of teaching botany alone?—Without doubt I regard botany as one of the most interesting and practical of sciences for school work. You can only have about one or two of those in any school, and if the teacher had a great liking for botany, that is a subject I should like to see introduced into the school and recognised as the science subject for developing the observing powers of the children.

24338. And elementary chemistry?—Elementary chemistry or magnetism, but only one other science subject should be taken in addition to the manual instruction, which I think might go on simultaneously with the other.

24339. You would not approve of practical gardening without scientific instruction?—Undoubtedly not.

24340. What sized garden would be sufficient?—A comparatively small one. I have seen a number of school gardens of half a rood, or even less, that in my opinion would do all that is wanted.

24341. That would be quite sufficient?—I should think so.

24342. You say you would be in favour of introducing drawing into all National schools?—Into all National schools.

Dicks
Nov. 14, 1887
Professor
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24343. I presume that it would have to be gradually introduced. Are there not a great number of schools in which the teachers do not know how to draw?—In my opinion that could be remedied very easily if you only pay enough for the subject. I would like to see all these subjects well paid for, and in the case of elementary manual instruction I think it would be only fair to the teachers to pay a good fee for that instruction, because they would be at some outlay, more or less, for the materials that would be employed in this manual instruction. In the case of drawing we turn out a great number of students from our training colleges every year who are certificated in drawing, but it is also true, I understand, that there are a great number of teachers at present in charge of schools who have not these certificates. However, if you only make this subject of drawing compulsory, or say it must be compulsory after a certain date, and get a few instructors to go round to the different inspectors' centres—there would be no difficulty in getting the teachers to come to certain centres—I would venture to say that in a short time nearly every teacher in Ireland would qualify for a certificate.

24344. Would you allow drawing to be taught by a teacher who has no certificate?—For the present I would have no objection to do that, making it compulsory on teachers to have a certificate in the subject after a certain time, giving them a year to prepare for it.

24345. Monsieur MOLLAT.—You have spoken of various branches of experimental and natural sciences, and I think you said that you think some one or other of them ought to be taught as far as possible in primary schools?—Yes. I qualified that by saying if the teacher does not take manual instruction for his senior classes, then I consider he ought to be required to take some one of the experimental or natural sciences.

24346. Do you think that, if manual work is taught, the experimental and natural sciences ought to be left out altogether?—No, but I would say that for the present the manual instruction ought to be taken as sufficient; but I would like to see, in addition to the manual instruction, some one or more of the various subjects.

24347. Taking the experimental sciences, are any of them at present taught in the training colleges for make at Marlborough-street?—Yes.

24348. Which of them?—We have never omitted the course, which is practically the same as Course II of the English Code, namely, general demonstrations upon natural phenomena bearing upon the subject of respiration and ventilation, and hygiene, and experimental demonstrations connected with the properties of air and water. That is carried on at the present time, although for the present year, owing to the introduction of the new programme, we are forced to drop the usual teaching of experimental science.

24349. I think you said that the experimental sciences were killed by that programme?—Here is the way it occurred. I was the professor of experimental science, and during the time that I have been connected with the college we have made it the practice of carrying on mechanics every year, and two other experimental sciences. We very frequently took up the subjects of pneumatics and hydrostatics and electricity, and we have also taken sound, light and heat. These were carried on regularly for the last twenty years. I had begun these subjects since the new programme was introduced, but a deprivation of the students waited on me and pointed out that the programme now was that of the Science and Art Department, that the subject of mathematics would require an amount of work from them three times that which they would have to devote to plane trigonometry, and that a similar remark would apply to electricity. It was important for them, many of them were anxious to go on with the subject of mechanics, but

it was all-important for them that they should pass with special distinction in the coming examinations in July next and thereby secure let alone, and they make petition that they should be allowed to take plane trigonometry in place of mechanics. That petition was granted.

24350. Then practically under the new programme it is found that students can get their classification more easily by leaving out experimental science?—Decidedly.

24351. I have heard it said that the new programme was drawn up especially for the purpose of encouraging experimental science?—It was.

24352. It seems to be a case of killing by kindness?—That was so only in the very last edition of the programme. One of the late editions was submitted to me for my observations I had to make, and I was perfectly satisfied with the programme drawn up in experimental science, but at the last moment I understood these were struck out, and the syllabus of the Science and Art Department introduced in their place.

24353. Then while we have on the programme of the National Board, elementary mechanics, electricity, magnetism, chemistry, sound, light, heat, physiology, not one of these is taught in their own training college in Marlborough-street?—Not one.

24354. And these subjects have been excluded by the practical operation of their own programme?—Yes, but we are in hopes it will only be for the present year.

24355. A point was suggested by the Archbishop, on which I should like to hear you a little more at length; you said it was impossible to expect that in a primary school all these various subjects should be taken up, and therefore an alternative should be allowed?—Quite so, both in the schools and training colleges.

24356. But if you allow an alternative in the college, then teachers going out from the college will not be able to teach all these subjects, but only one, namely, the one they have chosen?—I don't see that; they may acquire a knowledge of the other sciences from a source independent of the training college.

24357. Yes, but if you allow the alternative in the training college, then the training college will teach only one of those subjects amongst which the alternative is allowed?—Quite so.

24358. The teachers, therefore, will be trained to teach that one, and that one only?—Yes.

24359. Then you destroy the alternative for the primary schools; they will have no power of choosing, if the teachers are trained to teach only one subject?—Up to the present we taught three of those subjects, therefore our students going out were able to take up some of the three, and were not confined to one.

24360. Is it your suggestion, then, that in the training colleges three of these subjects should be chosen, but in the schools there should be an alternative allowing the choice of one?—Quite so. I don't mean to say that even in the training colleges three should be chosen, in my opinion two would be enough.

24361.—Then the alternative afforded to the schools is an illusion, because the teachers can only teach in the schools what they have been trained to teach in the colleges?—I don't agree with that view, because many of our students who come up to the training colleges knew already a great deal of the subjects of mechanics and hydrostatics, and have gone through a course of magnetism and electricity before they came to the college, and when they go out from the college, from their training in the general principles of teaching science, they are able to teach any science that they acquire a knowledge of.

24362. That is, when they have been prepared to teach that particular branch before they came to the training college?—Not to teach it, but they have learned it; there are a great many Science and Art schools through the country, and many of our students come up with certificates; and then if we give them

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a training in teaching a science subject, we held that they are able to teach other subjects.

24363. Which they may have learned in other ways?—Quite so.

24364. Do you think it desirable that it should be a matter more or less of hapchance whether the pupils in elementary schools should be taught botany or chemistry or physiology?—I would leave it optional with the teacher to choose any one of these, only that I would make it obligatory he should select one; but I think it of great importance that of a teacher is enthusiastic in botany he should be allowed to take that subject and work it up; and in my opinion he would produce better results from working up the energy and enthusiasm of his pupils in the science for which he has an enthusiasm himself than in a subject he may be forced to take up.

24365. What would you say to such a programme as that set out in Course H of the English Code. Instead of various courses in the several branches of science, such as electricity and magnetism, heat, light, mechanics, hydrostatics, and so forth, certain fundamental principles of physics and chemistry are selected, and taught in a simple and practical way, so, as to train the pupils in scientific habits and methods, and to lay a good foundation for more advanced study at a future stage?—In our college we practically do that and have always done it. I have pointed out to you that year by year we always carry on a course of what I may call general physics; but there is a great advantage in taking up a special subject, such as magnetism and electricity, and carrying it through as a science, because the study of a connected set of principles is of far more value than the study of unconnected principles.

24366. But do you think it is desirable for the boys and girls of primary schools to be taken through the details of these special branches?—I do.

24367. Remember the picked pupils out of these schools may afterwards go to intermediate schools, or technical schools, and some of them may eventually go to a university, where provision is made for learning specific branches of science. Would it not seem more suitable to their condition as pupils of a primary school, to learn general principles and the application of these principles in the common facts of nature, and in the industrial arts?—There is, of course, a great deal in favour of what you say, but still I hold that if a pupil goes through a thorough study of any one of the physical sciences he has acquired in the study of that particular science the general way of managing any other science. If, for instance, he goes through a course of magnetism and electricity and investigates it experimentally, should the subject of light or sound or heat be presented to him afterwards, and he be called upon to engage in that study, his study in magnetism and electricity has prepared him for the other.

24368. Do you think the thorough study of such a subject as magnetism or electricity is suitable for boys and girls of eleven or twelve years of age?—What I suggest is very little more than a series of object lessons, which has already been provided for in the junior classes; I have no objection to carry that on through the senior classes—which is Course H, but I hold a still more valuable training can be given by confining the boy's attention, as we must confine his attention in modern science, to some one particular branch and working it in detail, and I think he will derive more benefit from that than from a wider knowledge of several subjects.

24369. You are mistaken if you suppose that the general principles of physics and chemistry would be taught, in my view, by object lessons. In natural history a good deal can be done by means of object lessons, but in chemistry and physical natural experimental work would be absolutely essential?—I illustrate all object lessons by experiments; if I take up the subject of solution in a liquid I call it an object lesson.

24370. In object lessons you include experiments?—Undoubtedly.

24371. Do you think that in addition to the general course, which is represented in the English Code by Course H, there would be time to teach completely such a subject as magnetism and electricity?—No; I think the teacher ought to be confined to some one subject.

24372. Would you confine him to the general course?—No, I would leave it optional with him to take that general course.

24373. But if he selected a special course instead, then his pupils would never learn the general course?—That would have been taught to them in the junior classes as object lessons.

24374. Then you would have a course for the general fundamental principles in the junior class?—I would.

24375. And do you think after that course is thoroughly well done there would be sufficient time for teaching the details of such a subject as magnetism and electricity?—I would like certainly to see some one science taken up and investigated thoroughly; we must confine ourselves when we go up to some one particular science, though we may have a general knowledge of other sciences.

24376. The boys and girls of eleven and twelve, have not yet grown up?—I am looking to the voice, and I speak from practical experience. In teaching a particular science to young people, say, magnetism, say, sound and light, I certainly consider it is one of the greatest advantages to take up that subject and investigate it thoroughly, and then the pupils have not alone learned the principles which underlie that science but the principles which underlie other sciences.

24377. Coming back to the training colleges, I suppose that whatever course of instruction is to be given in the primary schools that should also be taught, and taught more fully and completely, in the training colleges?—That would have to be limited, we are limited in the training colleges just as much as in the schools.

24378. Whatever is compulsory in the schools ought to be taught in the training colleges?—Undoubtedly. But with regard to the word compulsory, while I say that the science-teaching should be compulsory, I don't say any particular science subject should be compulsory. The teacher must choose magnetism, light, sound, or heat, but only some one of these.

24379. Would you leave it to the fancy of each teacher which subject he would teach?—I would leave it to the teacher, because the teacher would naturally select the subject which he had thoroughly learned.

24380. Are you quite sure of that?—He naturally would.

24381. Did you never hear of a person teaching a thing he had not thoroughly learned?—I have to do that myself. He would choose the subject he knew something about.

24382. Mr. Meador—Before your appointment as professor in Marlborough-street you held the post of lecturer on physical sciences?—Yes.

24383. Were your duties in that capacity confined to Marlborough-street?—Entirely.

24384. Your predecessor in that post was Dr. Clarke?—Yes.

24385. Dr. Clarke used to visit a number of centres in the country giving lectures in physical science, and taking apparatus with him, and leaving some of it behind, and leaving teachers to carry on the instruction?—I understand so.

24386. Why was that dropped?—I could not answer that. I did not succeed him directly. Dr. Clarke died, and it was a considerable number of years before I was appointed, and conditions had changed.

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May 22, 1887.
Professors
Doherty, &c. &c.

24387. What subjects of physical science did you take up as lecturer at Marlborough-street College?—They might be grouped under the heads of mechanical physics and experimental physics, including sound, light, heat, magnetism, and electricity, all of those not being taken up during the same session, one session, heat, and another magnetism, &c. We started on the mechanical laws of solids and liquids in every course.

24388. At present you are professor in experimental science and the art of teaching?—Yes.

24389. You mentioned that you always had the important subject of general science?—Quite so.

24390. What subjects come under that denomination?—The natural properties of air and water, experiments showing the pressure of the air, pumps and their structure, simple experiments illustrating combustion, leading up to the subject of respiration and ventilation.

24391. Would you be in favour of a return to that system of itinerant instruction in physical science, visiting certain centres throughout the country, grouping the teachers of the locality together, and giving them instruction at those centres?—I would recommend that course in the case of drawing and in the case of the elementary manual instruction, or hand and eye training, and then, when you had those subjects fairly taught to the teachers, I think science teachers might be sent round.

24392. You referred a while ago to object lessons, how did these object lessons differ from what was years ago familiarly known as history of common things?—They are perfectly the same thing, if by common things would be understood natural phenomena. Combustion, for instance, I would call an object lesson. The candle would be the object.

24393. In connection with Marlborough-street, have you any chemical laboratory?—No.

24394. In the case of the teachers who took up the subject of chemistry, was all their information of a theoretical kind?—We never took up chemistry as a subject.

24395. But it was open to them to take up chemistry?—It was; but we never took it up as a subject of instruction. I never lectured on it.

24396. No instruction in your experience within a quarter of a century has been given in chemistry?—No; except the simple chemical experiments to illustrate the principles underlying respiration.

24397. What is the difficulty about carrying out these object lessons throughout the country?—None at all, in my opinion, and I would like to see them introduced into every National school in the country—made compulsory.

24398. Rev. Dr. EVANS.—You are in favour of hand and eye training being introduced into all our schools?—I am strongly in favour of it.

24399. Have you any provision for preparing the teachers to teach in that subject in the training colleges?—No; but with the permission of the Board we will introduce it into our training college, and for the future all our students will be turned out, we hope, able to give instruction in the subject.

24400. But it is not done at present?—It is not done at present.

24401. Is drawing compulsory on all the students in the training college?—Yes; male and female.

24402. Have you ever found it impossible to teach some one or other—that is, that some Queen's Scholar is not naturally capable of learning drawing?—No doubt some find great difficulty in learning the subject, and in a few cases fail at the examination. Such cases have occurred.

24403. You are present, I believe, at the examinations that are conducted by the head inspectors in July?—Examinations in the practical teaching of our students.—I am.

24404. Is it the practice for each Queen's Scholar to select three subjects which are tendered to the head inspectors, from which the head inspectors will take one?—Yes.

24405. A model lesson is given in one of those three subjects by each Queen's Scholar in the presence of the head inspector?—Quite so.

24406. Might not drawing be one of those three subjects?—It frequently is.

24407. We ought to have had that out before?—It frequently is chosen by the student as one of the subjects.

24408. In addition to those three subjects that are previously mentioned or selected by the Queen's Scholars, there is a model lesson given in the presence of the head inspector in a subject not previously known to the Queen's Scholars?—Quite so.

24409. Named by the inspector there for the first time?—Quite so.

24410. Might not the inspector make drawing that subject?—Undoubtedly.

24411. Rev. Dr. WILSON.—You are in favour of the extension of kindergarten from the infants up wards?—An extended course of kindergarten, focusing what we call hand and eye training. I would like to see that extended to the ordinary National schools.

24412. To how many standards would you bring it up?—In the case of our schools I would say first, second, and third, and I would put the fourth. The great majority of our pupils in National schools belong to the fourth class, and, therefore, I would like to rank them among the senior classes, although I am told they are very young pupils.

24413. With regard to schools that have only one teacher, what suggestion would you make as to the way the time should be spent of the class not under instruction?—That is an important question. The teaching of the elementary manual instruction, hand and eye training, in the junior classes could be carried on within what we call the ordinary school hours from ten to three, and the senior classes would then have to be set at some subject that would not require the teacher's special attention, such as exercises in composition. They could be working away quietly at the desks under the supervision of the master, while he was taking up the junior classes. But in the case of advanced science teaching or advanced manual instruction to the senior classes I would strongly recommend that it should be done outside what we call the ordinary school hours, that the teacher should have no care of junior pupils during that time, the junior pupils being allowed to leave the school, say at half-past two o'clock, and then during the advanced instruction, the teacher would only have the senior classes under his care, and would not have any trouble at all with managing the rest of the class.

24414. With regard to the centres for teaching cookery and teaching laundry, would you not think it would be best to have an expert teacher at those centres?—Quite so. That is the way I recommended the teaching of all these subjects—manual instruction, drawing, and cookery. The teachers who have not qualified in these subjects should be allowed to qualify by coming to a centre on, say, Saturday and joining in the instruction that is given. A course of six lectures would be sufficient, and then let them read and practise, so as to make up the subject, and qualify themselves within a reasonable time after the instruction is given.

24415. Of course a lesson by any teacher in a training college ought to be a model lesson as regards method?—Quite so.

24416. And the professor of method would take up the science of general instruction and explain how it should be done by the pupils?—Quite so; all our professors aim in giving their instruction, say, in geometry, arithmetic, or algebra, to put their lectures into the form in which one of the students would give a similar lesson to a class of pupils.

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 Professor
 Peabody, N.Y.

24417. Therefore, without asking you to say anything to magnify your office, would you not consider that a professor of method really is one of the most important officials in the training college?—I regard him as absolutely essential to a training college. The great object of the training college is not to teach any subject so much as to teach students how to teach the subject, and that can only be done by having a man whose whole time and attention is devoted to the science and art of teaching, and I think also, without boasting, in our college at Marlborough-street we do as much or more than is done in any other college.

24418. Most Rev. Dr. WALSH.—Will you kindly explain to the Commissioners what the actual practice is in reference to these model lessons that we have heard about, in connection with the examination of the students in the training colleges, especially in reference to those known as *improvisation* lessons?—As has been mentioned, everyone of our students selects three subjects, and prepares notes of lessons on these three subjects; and presents these notes to the head inspector.

24419. How long before the examination does the student present these three subjects?—Only on the day of the examination; he has prepared them months before.

24420. That is, on the day of the examination he gives his list of three subjects to the inspector, and then, as I understand it, the inspector calls on him then and there to give a lesson on some one of the three?—Yes.

24421. And, in addition to that, the inspector also calls upon him to give a lesson not specially prepared?—Yes.

24422. The selection of that additional subject is absolutely in the hands of the inspector?—Yes, absolutely in the hands of the inspector.

24423. To what pupils is this lesson given?—To the same class of pupils.

24424. These are the pupils of the ordinary practicing school attached to the training college?—Yes.

24425. Is not a lesson so given to the children likely to be, to some extent, a rather bungling performance?—Oh, no.

24426. We are speaking of a lecture given absolutely without preparation; is not that a wild sort of proceeding to set going in a school?—In all fairness, it is undoubted that the subject shall not be of a scientific nature, but a simple subject, such as is taken up in school classes.

24427. But, recollect or simple, is it desirable to set before young teachers, or candidates preparing to be teachers, the idea of giving *improvisation* teaching in the schools?—That is a question that has often occurred to me.

24428. I am sorry it has not been decisively answered long ago. Let me ask you now, do you think it is a desirable thing to put before the teachers, or candidate teachers in training, that, instead of preparing for the lessons which they are to give in their schools, they should give lessons to the children without preparation?—The question has often arisen in my mind, and I have come to the conclusion that it is not consistent with the principles I am constantly emphasizing to my students, that they should make a careful preparation for each lesson.

Most Rev. Dr. WALSH.—I heard some time ago of a fairly good teacher who was decidedly injured by this feature of the training college course. Before he went to the training college he never thought of taking up any part of his schoolwork without preparation. The idea of giving *improvisation* lessons had never occurred to him. But from that sort, he took to the system. He seemed to have taken up the idea that by giving *improvisation* lessons he could show that he was a trained teacher. So gradually he became very careless about his work, and it ended badly for him.

24429. Mr. REDMOND.—How much preparation is there for these *improvisation* lessons?—None, the students have to begin at a moment's notice. The late Head Inspector Councillor told me he had come to the conclusion that in all fairness a certain time for preparation should be allowed.

24430. Most Rev. Dr. WALSH.—Now, if these *improvisation* lessons, as they are called, are to be continued, should not something like that be secured—in it fair to ask you for your opinion on the point?—I would like to see a quarter of an hour given for preparation.

Rev. GEORGE CAMPBELL, O.M., Vice-Principal, St. Patrick's Training College, Drumcondra, examined.

Rev. George
 Campbell, O.M.

24431. CHAIRMAN.—I believe, Father Campbell, that you are the Vice-President of the St. Patrick's Training College at Drumcondra?—Yes, my lord.

24432. And you also come here to represent the Baginbun Training College for female teachers?—In as far as I am able to give evidence.

24433. Will you, first of all, describe the system and methods of these colleges?—The methods and system are pretty much the same in both colleges—both Baginbun and St. Patrick's—and they are on the same lines almost as the ordinary training colleges, that is to say, they have a certain number of Queen's Scholars, divided into senior, middle, and junior, some come for one year's course, and some come for two years' course. And then, at the end of their training, they are free to go and get appointments in National schools.

24434. Do they get certificates?—They get certificates, but not from us, the certificates come from the Board.

24435. You are in connection with the National Board?—Yes; the training colleges are under the National Board.

24436. What is the object of the training?—The object is to prepare teachers, and to teach them how to teach, how to convey knowledge to the children of the schools over which they will be appointed afterwards as teachers.

24437. Most Rev. Dr. WALSH.—Do you think that this object is kept sufficiently in view in the present

organization and working of our training colleges generally?—Well, in Baginbun, I understand, it is kept very much in view; all the professors there are practically professors of method, and they train the various Queen's Scholars under their care how to teach.

24438. But taking the system itself, as distinct from how it may be worked out in a particular college, is not very great prominence given to the holding of examinations which have to be passed by the students that they may get classified?—Do you not think that with very many of the students in the training colleges the main idea, if not the only idea, is to prepare for passing these examinations with a view of improving their classification and thus getting better salaries?—Undoubtedly, that is the chief thing they have in view.

24439. And that really is what the examinations are held for by the National Education Board?—Yes.

24440. There is a professor of method in your college?—Yes, your Grace, Mr. Fitzpatrick.

24441. I understand he will be examined here to-day: do the other professors pay any attention to the subject of method?—Well, I cannot say that they do, they have a great deal of work to get through, and there is scarcely time for them to do more than teach that work in such a way as that their lessons would be models for the students themselves, but to bring the students to teach before them in class, that is a thing they do not do.

24442. You have a large practising school attached to the Drumcondra Training College?—We have.

24443. And to the college in Baginbun-street also there is attached a very large practising school?—Yes, your Grace.

24444. Do the students and teachers in training practise in those schools the art of teaching?—They do.

24445. Do they practise it under any special supervision?—They practise it under the supervision of the professor of method.

24446. Does he superintend their teaching in all the subjects of the school course?—I think he does.

24447. He does not confine his instruction in method to these particular subjects which he teaches himself?—By no means.

24448. Your professor of method is, I believe, the teacher also of some particular subject?—He professes arithmetic and mensuration.

24449. But in dealing with the subject of method, he does not confine himself to the method of teaching arithmetic and mensuration?—Most certainly not, he deals with the method of teaching in general.

24450. Do you think that this system which we have, the system of having the students of the training college practising on the children of the school, is a very satisfactory one as regards the educational work of the school? do you think the children suffer?—I don't think the children suffer, because the teachers that go down there are very earnest, and as they are under the eye, not merely of the professor of method, but of the principal of the school, who also takes notes of what goes on, they feel themselves under the necessity of doing their very best.

24451. I believe the National Education Board now give special advantages, in the way of better salaries, to teachers in the practising school?—They do.

24452. And in that way the practising school is able to command the services of better teachers, and this, I suppose, makes up for any little drawback that there may be, if there is any drawback, from the introduction of the training college students?—Yes, your Grace.

24453. Do you think it would be an improvement to the system if each professor was made, at least to some extent, a professor of method in his own particular department, whilst reserving the services of a special professor of method for the work of teaching generally?—I think it would be very beneficial.

24454. Do you not think that this would have the effect of emphasising the importance of method?—Certainly.

24455. It would emphasise the idea that the first work of the training college is, as the name implies, the work of training persons to teach?—It would certainly.

24456. A training college must, of course, teach such subjects as history, arithmetic, algebra, and that, but you do not consider that to be the primary work of a training college?—Properly speaking, it ought not to be.

24457. Is it not the primary work of the training college to prepare a person for the work of teaching?—Certainly.

24458. Then the question may arise, how can he be prepared for the work of teaching if he does not know the subjects?—He cannot, of course, but he must come in after having gone through a school, and if he does not know it when he comes in, he ought not to be allowed into the college at all.

24459. Then the necessity of teaching him these subjects comes in as a means to an end in order to train him for the professional work of teaching, the college has to a certain extent to teach him the subject which he is afterwards to teach in his school?—To a certain extent it has.

24460. Suppose we could so arrange things that all the students and teachers coming into the college had a sufficient knowledge of the subjects, would there be

any work left for the college to do?—Very little in the way of teaching.

24461. But there would be the work of teaching them how to teach those subjects?—There would be work to remove wrong impressions perhaps.

24462. There would be the work of training them to teach, which you regard as the essential work of the training college?—Yes.

24463. And in so far as the other work, the work of teaching the subjects, has to be done, it has to be done because people come in not sufficiently prepared to enable the college to dispense with it?—Yes.

24464. The better they are prepared, the less work the college would have to do in that respect?—Yes.

24465. I believe the training diploma is not given for sometime after the teacher leaves the college?—They must spend two years teaching, and successfully teaching.

24466. I have heard it stated as more or less of a grievance in connection with the training colleges—the statement was made to me, but I don't think it is correct—that under the National Education Board's new programme for the promotion of teachers, untrained candidates who go in for promotion have an advantage over other candidates, I think it is in the case of the 2nd Division of First Class, that whereas a trained candidate can only get this classification after two years' subsequent teaching and after passing an examination, an untrained candidate can get it simply by passing the examination?—That is not quite correct. The untrained teachers who can get promotion to 2nd of First must be themselves 1st of Second, and they must have been persons excepted from training under one of the rules of the Board.

24467. They are persons treated as having some vested privilege?—Certainly, they have been teaching for the last ten years.

24468. A complaint has been made about the working of the new programme, that the introduction of it had in some way killed the teaching of natural science in the training colleges, now as to your training college, was natural science taught there previous to the introduction of the new programme?—It was.

24469. Is it taught there now?—Not since the introduction of the new programme.

24470. Who determines whether a subject which is in the programme is to be taught or not?—We must follow the programme, and if the programme leaves certain subjects optional—

24471. Natural science is in the programme as optional?—Yes.

24472. Who decides then whether it is to be taught in the college or not?—The students themselves choose that it is not to be taught; that is, their general feeling is elicited, and then the authorities of the college decide on taking something else.

24473. That is, the students represent their views to you, and you are influenced by that?—Yes.

24474. I believe the subject that is now taught in place of natural science is trigonometry?—Yes.

24475. Each of these is an optional subject at present?—Yes.

24476. And probably the same number of marks is assigned to each of them in the programme?—Yes.

24477. Why do the students prefer trigonometry?—They think it would be more easily acquired than to go through a large amount of natural science; and in the next place they find it will be more useful to them hereafter.

24478. Take the second of these reasons first, which of the two do they consider will be more useful to them hereafter?—Trigonometry, they believe.

24479. Surely they do not believe that they are to set about teaching plane trigonometry to the 875,000 children attending our National schools?—No, I think not. I think they look upon it that it will be useful to them in many cases, in country places; they may be called upon to make a survey of lands or fields.

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24480. I find in our report of last year that trigonometry was taught in only two schools in all Ireland, and that the number of pupils examined in this subject was also two, so that, apparently, there was just one pupil in it in each school, these two, I find, passed. That I suppose, will be set down as very successful teaching, 100 per cent. of passes!—Yes.

24481. CHAIRMAN.—Is it the case in your knowledge that nowadays, since the introduction of the *Lead Arts*, National schoolmasters are very much employed by farmers as surveyors?—Not very much, but I have heard of cases.

24482. Don't you think that that is a reason why they learn trigonometry?—Yes.

24483. Most Rev Dr. WALSH.—So it is useful to them, not as teachers, but as individual members of the community, who may earn money by it for themselves, outside the work of teaching?—Yes.

24484. Is that a desirable principle on which to distribute an educational grant?—I don't think it is.

24485. Now, as regards the proper work of a school, could anyone for a moment suppose that trigonometry would be a more useful subject than Natural science—I mean any well-informed person?—Looking at it, without taking account of what use may be made of it, taking it in reference to the work of the school, I would think it is not.

24486. You mentioned another reason; you spoke of the ease of passing in it, the students think it is easier to pass in trigonometry than in Natural science?—They do.

24487. And you think that this consideration largely influences their choice?—Yes.

24488. Does not this go to show that there is a perverted idea of the work of a training college before them—that they are not viewing the question in its bearing on their work as teachers in their schools, but rather viewing it as to how it will help them to get a classification, certificate and an increase of salary?—That is their object.

24489. What remedy is there for this, if there is any remedy for it, you would not propose to eliminate trigonometry from the course?—I would not, but I think the other subjects might be made not optional, but compulsory subjects.

24490. You consider that in whatever way it may be worked out, natural science should in some sense or other be made an obligatory subject in the training college?—Yes.

24491. We had some reference to-day to certain lessons that are given, model lessons as they are called; what is the practice in your training college in reference to these?—The two head-inspectors come, and the students present themselves before them, these students present notes of lessons in three subjects, the inspectors look at them and choose one, and give it to the student, and tell him to teach the class that lesson. The teacher is obliged to choose from the practical school the class which that lesson would suit. He teaches the class in the presence of the inspector the lesson proposed. Immediately after that he is told, "That will do, now teach another lesson."

24492. Is it open to all the students of the college to give in the same set of three lessons?—Perfectly open.

24493. Is that a satisfactory arrangement?—It is not usually done.

24494. Might not the result of it be that a training college for its own ends would devote its whole time to training students to give lessons in some three definite subjects?—That might happen.

24495. Is it a satisfactory state of things in which that is possible?—Certainly not.

24496. What would you think of this arrangement—we found in Scotland that some time before the examinations, the college sends in a large list of subjects, each student sending in three, but there being a huge list from the college as a whole, then a subject is selected by the inspector?—That would work better, perhaps.

24497. The list is sent in a month beforehand, so that the inspectors have abundance of time to see how the general range of subjects is selected?—That would be still better, I think, than the present system.

24498. Do you think it would be an advantage or otherwise to have what I think they have in Scotland: the selection of the particular subject is made, say, a week before the coming?—It would be an advantage.

24499. It would be an advantage for the student of course, but would it be an advantage in view of the educational work of the college?—I think it would in a way, I think it would prepare the student better to teach.

24500. Perhaps he might send in three subjects which he had not prepared at all, saying "I am sure to get a week's notice, and in a week I can prepare any of these subjects?"—That he would not do.

24501. But under the present system he sends in three subjects, and he is told to teach one of them?—Yes.

24502. In addition to that, there is an impromptu lesson?—Yes, immediately after he had taught the lesson he had prepared, he is asked to teach an unprepared or impromptu lesson, the subject of which he is not told beforehand, but he is simply told "Teach a class a lesson on tides, for instance."

24503. Where does this go on?—In the practising school.

24504. He is not teaching a class formed of his fellow-students?—No.

24505. Is that a desirable arrangement, if an inspector nearly wants to see how the student can teach, he could not well show this by arranging a number of empty benches; but as it is desired to have living beings before him, could he not teach a class formed of some of his fellow-students?—He could.

24506. What is the character of these unprepared lessons, are they very satisfactory?—Not always; perhaps once out of sixty times they may be.

24507. In the nature of things there should be necessarily a large amount of imperfection in work done in that way?—Most unsatisfactory.

24508. Do they get any time to prepare, say even five minutes?—Not even one minute; they are already standing up and giving a lesson, and then they are told "That will do; teach the other lesson."

24509. Would not the effect of that on a nervous person be that the lesson would be given in a very confused and unsatisfactory way?—It is very frequently given that way.

24510. Do you think it would be desirable to confine the lesson to a certain number of subjects?—I would do away with the impromptu altogether.

24511. But you think it would be desirable to have some test that the college did its work satisfactorily, and have a large range of subjects sent in by the college, by each student sending in three?—Yes.

24512. If there was half an hour beforehand to prepare an impromptu lesson?—I would not call it impromptu then.

24513. No, but to a certain extent unprepared?—Half an hour would be a fair preparation, but not for all lessons.

24514. At the entrance examinations at Maynooth, where in the old times there was an immense range of chemical authors in the entrance course, a student was brought into a room, as I allowed ten minutes or a quarter of an hour to look over the passages in which he was to be examined. Something of that kind might be done?—Yes.

24515. You stated, in answer to Lord Belmore, that you have in the college two classes of students, some are actually teachers and others are only candidates for the office of teachers?—Yes, your Grace.

24516. It is frequently complained by the teachers that the colleges are giving undue facilities to the candidates for the office of teacher, to the exclusion of untrained actual teachers who desire to

be trained!—That may be in other colleges, but it is not so with us.

24517. I have totted up the figures from the National Education Board's Report; they seem to me to show that there were not more than ten per cent. of the students in the training colleges actually teachers!—With us last year we had about sixty going in for one year's course, and every one of those was a teacher.

24518. That is to say, about one-third of your entire number!—One third of the entire number.

24519. Is there any other observation you wish to make!—I would merely wish to say that some of those teachers that apply are of the third class. We had some of them examined beforehand to find out whether they would be capable of going through the one year's course, and a good number of them failed.

24520. The one year's course is practically the only course for those who are actually teachers!—Yes.

24521. And a large number of those who presented themselves for it failed at your test examination!—Yes.

24522. So that, whilst you have a large proportion of actual teachers, it is not your fault that you have not more!—Certainly not. We would take in as many as would pass the examination.

24523. I know that an entrance examination is held for the training colleges in the case of persons who are not yet teachers; is it held by the National Education Board. Is there any examination held officially by the Board for candidate teachers who apply for admission!—There is no such examination.

24524. Do you think it would be a good thing if there was some such examination!—Yes.

24525. I believe it has been done in some cases!—It was done on application from the college, and that examination does not at all interfere with the classification of these teachers.

24526. But you think it would be a useful thing if it was provided that all teachers applying for entrance to the training college should be examined by the Education Board as a matter of course!—I think it would.

24527. I believe you are guided very much by the percentage of answering at the entrance examinations!—I might say altogether.

24528. Of course everyone can understand that a college could not be conducted if you were obliged to admit absolutely on a mere percentage of passes. You have to make inquiries about character!—Yes, and various things of that kind.

24529. Can you tell me what was the lowest percentage at which anyone was admitted to your college this year!—The lowest percentage was 67 per cent.

24530. A person, no matter what influence he might have brought to bear on you in his favour, could not go in if he was below 67 per cent.!—No.

24531. I believe I am right in saying that the corresponding percentage for admission to the Baginbun Training College this year was even higher—70 per cent.!—Yes.

24532. Absolutely no candidate was admitted there this year who did not get 70 per cent. at the entrance examination!—No.

24533. Mr. BURGESS.—If you had an examination now for one year's students, in what column of the programme would you examine them!—In column 2.

24534. So as to let them enter the college at the same level, as it were, as those who were going in for the two years' course!—As those who were going to begin the second year of the two years' course.

24535. Would not that be a little hard on the very class you want to see trained, those who have been rather backward and are not conducting their schools with efficiency!—It might be, but I don't see how you can remedy that, unless you put those who are third-class, or those who have been conducting schools for some time, or are backward, in for a two years' course.

24536. What would be the objection to letting them come in for a one year's course on a lower examination!—They would not be able to follow the class and fall in with those who were better prepared.

24537. At present the college gets a bonus for all the diplomas gained by the students after two years' efficient service!—Yes.

24538. Those candidates must have passed the final College Examination!—Yes, they cannot have a special diploma unless they have passed.

24539. If a diploma were given to all who passed in methods of teaching alone, would that induce the college authorities to devote more attention to that side of the college work!—I don't think that we could be induced to give more attention than we do—we give all the attention we can.

24540. But the students are very anxious to pass their examination!—They are, most certainly.

24541. And it is necessary also for the college that they should do so! but supposing the necessity of passing in all subjects were done away with!—I think we would be just as we are—we would work as hard as we could.

24542. Have you formed an opinion about the teaching of agriculture!—No, we have a professor of agriculture in the college, who gives lectures twice a week but we have no practical agriculture.

24543. Do you think it a good thing to have theoretical teaching of agriculture without practical experience!—It would be of course better if you had the practical experience, but I think even that the mere theoretical knowledge is a benefit.

24544. You are familiar with the new edition of the "Introduction to Practical Farming"!—I have not seen it.

24545. Do many of your students take up vocal music!—A very large number, we have sixty per cent. or seventy per cent. of the entire house.

24546. Do you think it desirable that they should all take it up!—As many of them, of course, as are capable of being trained to sing, many of them have no ear, no capability of joining the choir in that way, it would require more than a two years' course to train them.

24547. Mr. MONTAGUE.—If I mistake not St. Patrick's College has been in connection with the National Board for thirteen years, since 1853!—Yes.

24548. I see by an official return here published, by the National Board, that so many as 1,210 Queen's Scholars have been trained at St. Patrick's College, between 1853 and 1896!—That is true.

24549. Have you had accounts of their modes of teaching throughout the schools to which they went later on!—In a general way, we have had from managers.

24550. Were those accounts satisfactory!—In almost every case.

24551. And since 1891, when the bonuses were established and certificates based thereon, have many bonuses been lost, so to say, to the college!—Very few, some were in consequence of death, or something of the kind preventing them giving the two years' service.

24552. That would indicate that methods of teaching had been practically attended to!—As far as we can judge.

24553. You represent Baginbun College also, if I mistake not, I find that so many as 1,193 Queen's Scholars were trained in that college in the corresponding period!—Yes.

24554. Are you aware whether the accounts of their subsequent progress was satisfactory or not in the schools!—I have got no report of that.

24555. Is there any record kept in St. Patrick's College of the schools to which the teachers go!—Yes.

24556. Are communications kept up!—We require that every teacher when he changes from his school sends us notice of it and that is entered in our register.

24557. How do you obtain students for your

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college?—They send a letter to inquire whether or not they would be permitted to enter, we send forms necessary, these forms are filled up, then they have a nomination from the Bishop and a letter from the manager—he is usually a parish priest, and when we get all these we send the names to the Board and the Board sends in a return of those candidates who are eligible.

24559. Then you must depend on your own action in order to secure students for your college?—Yes, or on the action of the managers of the country.

24560. Do the Commissioners of National Education co-operate with you in any way in supplying students for your college?—In no way.

24561. They do that, however, in the case of Marlborough-street, the inspectors furnish the names of students throughout the various districts of Ireland?—That is not the case with us, they do nothing for us in that way at all.

24562. In connection with St. Patrick's Training College have you had students who have served previously as pupil teachers in the model school?—No, we have monitors and assistants of the ordinary schools but no ex-pupil teachers.

24563. Who have already been classed and under instruction for the office of teacher, for two years?—No.

24564. They have that in Marlborough-street. On the point of classification—if classification were not an important point to aim at, do you think the teachers would come up simply to acquire a superior method of teaching?—I don't think so by any means.

24565. But now that the colleges have been thirteen years in operation, do you think the time has come when that classification idea might be dispensed with, and they might, on a separate and independent curriculum, be admitted to the training college?—I think the time has come when some change should be made.

24566. That would secure the presence of a number of persons who perhaps think themselves too old to begin a course of study with a view to improved classification?—Probably.

24567. Might I enquire the maximum limit of age for admission to your college, St. Patrick's?—We put it down at thirty-two, sometimes we go beyond that.

24568. The average age very likely is about twenty-five?—About that.

24569. All along since 1833-4 when your college was established you admitted teachers for a one year's course, that is teachers actually in charge of schools?—From the very beginning.

24570. And in connection with the last course, that terminated in July, you had a number of those teachers coming forward for such high classification as second Division of First?—Yes, a great number, I think there were forty-five or fifty.

24571. Have they succeeded in obtaining that on the new programme?—On the old programme; this is the first year of the new.

24572. Rev. Dr. EVANS.—Coming to the matter of model lessons given by the Queen's Scholars in July

before the head inspector, the principal and vice-principal of your college, I suppose, will be present?—Oh, yes, always.

24573. Anyone else?—Two of the professors present also, the professor of literature and the professor of science.

24574. Now, then, in the presence of the two head inspectors, would it be possible, do you think, for any training college to limit itself to three subjects without these head inspectors immediately detecting it?—I am sure they would detect it.

24575. Immediately?—They could not but detect.

24576. With regard to the subject that is given to the teachers to teach an impromptu lesson on, is not the reason for giving that lesson to prevent such a thing as has just been mentioned, that is a college, or students themselves, hating themselves to the three subjects?—Well, I don't know what the object was, but I know this, that if they gave them, say, half an hour to prepare beforehand it would effect the same purpose.

24577. The principal, and the vice-principal, and the professors are present, they see, do they not, when this impromptu lesson is given, any defects there may have been in the teaching of the Queen's Scholars?—Certainly.

24578. And would have an opportunity therefore of learning themselves for the improvement of the teaching in the next session?—I don't think they derive any advantage of that kind from it, or that they care to it any account.

24579. But they would have the opportunity?—Yes, if they liked to use it.

24580. Do your students select drawing as one of the three subjects?—I have never seen it selected, but I have been only there four years altogether, but during all that time I never saw it even once presented.

24581. Mr. MOLLOY asked you about the part that the inspectors fulfil in regard to candidates for the Marlborough-street Training College, do you think in the case of a denominational training college that the inspector's action in that way would be admissible?—I would prefer that the inspectors took no action for any college.

24582. Rev. Dr. WILSON.—Are your training colleges full?—We have the full number, 165.

24583. CHAIRMAN.—In both?—Yes, in both Drumcondra and Dagenestreet.

24584. Most Rev. Dr. WALSH.—A very large number of candidates apply for admission?—We had any number of applications that we were obliged to put aside, in consequence of the fact that they did not come up to the percentages, although they passed the examination of the National Education Board, 50 per cent is sufficient for that.

24585. Rev. Dr. WILSON.—What would you say in the main object of bringing up these young men to Dublin, is it to give them information or to train them how to teach?—The main object of a training college is to train them how to teach.

24586. Have you a professor for that?—We have.

Mr. STEPHEN FENPATRICK, Professor of Method, &c.,

St. Patrick's Training College, Drumcondra, examined.

24587. CHAIRMAN.—You are the Professor of Method, Arithmetic, &c., in St. Patrick's Training College at Drumcondra?—Yes.

24588. And you are prepared to tell us what in your opinion a training college should be?—I have formed an opinion on it. I think it is a place to which students come with a certain amount of knowledge, which is to be perfected there to the extent that the requirements of their school life afterwards may need, and that they should be shown the proper

methods of teaching such subjects; that is, that they have a certain amount of education which the college will see comes up to what will be required of them in their school life, and I think it should be very little beyond that.

24589. What is the position in which you think that a training college is placed in actual fact at present?—In a very false position.

24590. Will you tell us how?—You have asked from all the witnesses giving evidence what they

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thought that a college should be, and they all, of course, gave the one answer, that it should be a place where the teachers are trained how to teach, but that it need not be an impossibility to do, to the extent that you feel you ought to do it, when you find that there is a programme set forth which takes from you more than five-sixths of all the time that can be given for instruction in the college.

24591. Is it your opinion that the candidates might reasonably be expected to know all these things, more or less well, before they came to the training college?—If they were not expected to know it then the programme ought not to be drawn up as it is. But the fact is that they do not know it as they come to us unprepared to the point that is required.

24592. Is it that in theory they are expected to know them?—I say there should be no programme for training colleges that makes anything like so large a demand on the time of the college for the purpose of instructing the students.

24593. Rev. Dr. Wilson.—That is giving information to them?—Yes, apart from the knowledge of how to teach the thing.

24594. CHAIRMAN.—What amount of proficiency ought to be expected from students on entering?—Take column 2 for students coming in for one year's course, those who come for a two years' course have a decent test and sufficient in the first column; those who come for a two years' course having answered up to 70 per cent. in column 1 are quite prepared to go on as a rule in column 2 for their first year, and column 3 in their second year.

24595. Perhaps you would explain what these columns are?—Students coming in for a two years' course are candidates for the position of teacher, never having had schools before, and in order to show their fitness for a training college they have to pass in column 1; that qualifies them as third class teachers, and many of those will go out as teachers, having passed in column 1, and not come to the training college after. But if they come to us having answered 70 per cent in column 1, we are satisfied that they are fit to go on in column 2 and column 3 for their respective years, first year and second year.

24596. There are six subjects on the first paper, and a number more afterwards, but taking the first page in these of three subjects, columns 1 and 2 are identical, or practically so.—Some extension in column 2,—the same as in column 1, with some additional matter, it may not be very much in some cases. But the difficulty is with those who come in for one year; those are teachers who have already schools, and are leaving these schools having supplied a substitute; they remain for a year, and are expected to enter on column 3, in which the examination will be held. We have little or no knowledge of what their acquirements are when coming up, don't know whether they surpass in column 2 or not, the only evidence we have of it at all was this year, that third class teachers were subjected to an examination by the Commissioners, I think at our request, and those only who showed evidence of fitness by their answering in column 2 were sent to us.

24597. They were examined before they came up?—Yes, but those who held second class, and are now with us, and in the several colleges, were subjected to an examination.

24598. What test of fitness is there for an uneducated teacher before he or she can get a school?—Column 1.

24599. Does the National Board require an examination to be passed in column 1?—In column 1 before they could take the lowest class, third class, and it is only such a student that we can get into the college; that is, they must have passed in that before coming in even for a two years' course, and we are satisfied that the test that is applied to them, that is that intellectual test, fitness for teaching, does not cause too late we often get them with intellect enough to

study any distance, not having the natural turn for teaching.

24600. What do you say about the training colleges and promotion in classification?—The teachers come there—as you have drawn from so many witnesses to-day—with an eye to advancement in classification and advancement in salary, and that predominates all through their course, and no matter what you may do in the way of teaching them method, still their thoughts are almost wholly directed towards the end of the passing of the examination; that almost excludes method as a counting part of the result. Thus year it is brought in for the first time; they give 100 for it out of 1,300 or 1,300 marks that are given to qualify for promotion; for the first year these 100 marks are given for success in teaching.

24601. What would you suggest might be omitted in the instruction given in training colleges, with regard to the acquisition of knowledge by the students themselves, in order to give more time for training them in the art of teaching?—I think what ought to be required of the training colleges is to see and know, first of all, that is on the part of the Commissioners, that they understand what is well calculated to promote the people socially and intellectually, that there are certain subjects, and they will see that in the training colleges these subjects are well taught, and the teachers sent out well capable of teaching them also. This year we had a young student that passed his examination, getting sixty per cent. when only fifty per cent was required; he failed in arithmetic to get twenty per cent.; the result of it was that he lost his two years' course, and failed to get promotion in his classification, although he passed in method and everything else. There was no inquiry as to how he could teach; the mere fact that out of his passing subjects, one was under twenty per cent. was sufficient to cause him to be not made. How could we in the face of that turn our backs to method, when we know there will be no inquiry at the end of the course whether we have taught it or not if a failure in one other subject arises.

24602. What do you think of the fitness of the students for school duties on leaving the college?—I think we are in too great a hurry to put them into principalships; teaching is more difficult than many suppose, and one year's course or two years' course is insufficient to make a competent teacher. If we in two years could send a man out at twenty capable of being a good assistant, we have done a great deal, and several years of apprenticeship in good schools should then alone fit them for principalships.

24603. You would be against the system of taking a person as a principal to begin with?—Yes, but if I don't take him, whom will I get? I am taking for granted we ought to have competent teachers through the country, and if we could get them it would be better for the training colleges and for the country that these young men should give a further apprenticeship to teaching in schools as assistants.

24604. In practice the manager looks out for the teacher himself?—He does.

24605. Then you would limit the manager's choice to a person who had been an assistant teacher; you would not allow him to take a person who had come out of the college a week before?—It has to be done. He will very often find that a young man coming out of college after two years is much better than any he can get outside. But if they are fit to go even as far principals now, how efficient will they be, leaving us in that state, after two years under a good teacher as assistant.

24606. By your system you would tie up a manager to selecting his teacher from an assistant?—Take our teachers that have left us after two years and are out now as assistants, of whom the inspectors and managers all report well, then I say the selection of a principal for any school ought to be from those rather than from those who leave us immediately.

24607. What do you say about the teaching

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diploma?—The teaching diploma at present is generally known as a training diploma, that is at the end of a course of one or two years. The examination is by the head inspector to test how they teach; as a result of that the teacher gets a first class training certificate or a second class training certificate, he devotes two years outside in teaching afterwards, and a successful report of the head inspector upon his examination at the end of the course of training, together with the result of teaching in school, warrants him in getting a first class or second class training diploma apart altogether from classification. It has nothing to do with a first class certificate for salary, but merely a sort of recognition of his quality as teacher, and of course they are valuable, but most managers are scarcely aware of its existence, and, when teachers make application to them, don't make inquiries as to whether the teacher after leaving the training college received a first class or second class diploma.

24608. **MR. REV. DR. WALSH.**—I understand you to say that it would be better if young teachers, who go out from the college, spent some substantial time as assistants before being promoted to principalships?—Yes.

24609. At present I think they are very anxious to get appointed as principals?—It generally means something better salary.

24610. Is not that anxiety on their part the very natural result of the present arrangement about the assistants' salaries?—Oh, yes, it is.

24611. The present salary arrangement is that an assistant teacher, no matter how high his classification may be, is paid only as if he had the lowest classification?—Unless with exceptional schools—preparing and model schools.

24612. These, as you say, are exceptional cases, they are very exceptional, but in the ordinary case the assistant gets nothing or very little by the fact that he is a second class teacher, or even a first class one, over being a third class teacher?—No.

24613. Now, whilst that state of things continues, is it not almost certain that you will have the assistants looking out for every opportunity that presents itself of getting into the office of principal?—Yes.

24614. And you consider that this result is a bad one?—I do, because they will only learn to conduct school through the sufferings of the children for some time.

24615. Then do you think that the assistants should be paid according to their classification?—Oh, no, I would say the training colleges ought not to be concerned with promotion at all.

24616. I am speaking now of the trained assistant teacher, do you consider that he ought to be paid as a second class or first class teacher, as the one might be, even though he is only an assistant?—I do. If a school wants an assistant they ought to get the best assistant, and the better assistant ought to be paid more than a worse one.

24617. I believe that the claim of the assistants for the payment of their salaries according to classification is met by an allegation that the principal teacher has certain duties to discharge that the assistant teacher has not?—He has.

24618. So it might be an equitable arrangement to pay him, not the full class salary as if he was a principal teacher, but a substantially improved salary in view of the fact that he is a second class teacher, or a first class teacher?—I would not interfere with the principal's salary at all.

24619. I am speaking only of the assistant's salary?—He ought to get according to his classification an improved salary.

24620. And if he did not get the full salary, he ought at all events to get whatever increase would be a recognition of the claim that he has reached, and I mean a substantial recognition of it, and less than the full salary only in relation to the difference, if there be a difference, between the duties of an assistant and those of a principal teacher?—Yes.

24621. So that the only difference between his salary and the salary of the principal would be whatever difference is called for by a difference in the duties?—Yes.

24622. You consider that this concession to the assistants would remove one of the great defects in the present system, the defect resulting from their premature, but perfectly natural, desire to get appointed as principals?—Yes.

24623. At what time is the diploma of training supposed to be given to the teachers?—Two years after they have left the training college.

24624. It is a matter of considerable interest in the college?—The college receives a bonus on the success of the student, when the student gets the certificate.

24625. To that extent the colleges, like the teachers, are paid by results?—Yes.

24626. No matter how well the college has done its work, if the teacher fails to fulfil the conditions prescribed for him, he, of course, will not get the diploma and the college suffers also?—Yes.

24627. But the substantial payments to the training colleges are not dependent on results, I mean that they do not depend on the passing of the individual students at the end of the course of training?—No.

24628. You are Professor of Method and also professor of some particular subjects?—Measurement, book-keeping, and so on.

24629. Is it fair to ask you this question: do you think you are in as good a position to look after the method of teaching, say, in English literature, as you are in arithmetic, which is your own special subject. I am sure you know that I am aware how competent you are to do all the work, but do you not think that you are more specially qualified to look after the method in those subjects which are your own, than you are in the others?—I am; I am sure, that is natural, I have more practice in it, and more opportunities for correcting myself.

24630. The professors of the other subjects do not, I believe, look after the methods of teaching in their subjects, at least in any formal way?—They do not.

24631. I take it that they give instruction as to how their subjects ought to be taught?—I think that.

24632. But when the actual work of teaching those subjects comes to be done in the preparing school, they are not there, but you are?—Yes.

24633. And it is your business as the professor of Method to be there, and it is not their business?—It is not.

24634. Do you agree with the other witnesses we had here to-day, that a very prominent idea in the minds of the students in the Training Colleges, under the present system, is to get promotion?—I do.

24635. And that this is the great advantage that the Training College gives, that by means of it they can get up to a higher rung on the ladder of classification, and so get a higher salary?—Yes.

24636. What would you think of a system in which the one work to be done by a Training College would be the work of preparing these young people for the office of teaching, and that the college, so far as it depended on results at all, should depend simply upon its success in training teachers, that is, upon the professional work, not at all upon the other?—That would relieve the college no doubt and enable them to devote more time to it, but if you like to take it the other way, that they will disregard the progress of the students, I don't think it would produce a pleasing result in the colleges, there would be differences between professors and students.

24637. Do you think that at present the teachers you have to deal with in the Training College are sufficiently educated to enable the colleges to dispose with the office of teaching the various subjects?—They are not, they would have no chance of getting the examination without far too much time being allotted to the teaching.

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24638. Do you think there is too much required of them in these examinations?—Too much required, considering what they are when they come into us.

24639. I would rather look at the other side of the case, considering what they have to do when they go out from you, do you think the programme is too exacting?—Far too exacting.

24640. Do you think it is too exacting in your own department, arithmetic?—It is.

24641. You think the college could do its work as a Training College better if it had not to prepare the students on such an extensive programme in arithmetic, and could give more time to training them in the teaching of arithmetic?—Everything you draw from arithmetic and other subjects and throw into the method teaching, would be so much the better.

24642. Would it be too much to ask you to put in a statement of what changes you think might be made in the present programme with a view of limiting the amount of matter that has to be taught, and so leaving more time for the proper work of the Training College?—Yes, your Grace, as far as I can do it. There are some of the points you have been questioning upon, that I differ seriously with other witnesses as to. About the diploma test, when the students are leaving, the two head-inspectors require the three subjects.

24643. Have you any suggestion to make about that?—I think that as a rule our head-inspectors carry it out fairly. Your Grace referred to the fact that it might be possible that all the students would give in the same three subjects, but the head-inspectors are very watchful. I remember a couple of years ago being told that two students out of 110 had one subject the same.

24644. Suppose a student turned up before the head-inspectors at an examination and was examined on his three subjects, and suppose a second student comes up and hands in three subjects, two of them being the same as on the other's list, have the head-inspectors any right to reject that list?—They have no right to reject it, but they would be sure to suspect it.

24645. Would it not be a much better system if the lists were sent in beforehand, so that they could look over them carefully?—I don't think it would, because we understand what is expected of us, and we tell the students.

24646. That is because, I am sure, you are very honest people, but the people who come after you may not be so honest?—But the inspectors will require them to be. In that case which I mentioned, they found one student out of 110 having one subject the same as they had examined the day before. Then, again, about that impropriety lesson, I don't look upon that as so serious if the inspectors are reasonable, and will recognise that it is felt only to ask the students to teach a subject that is common in their every-day school life.

24647. Would it not be much better in that so-called impropriety lesson, if some short time—five or ten minutes, or even half an hour—was given to the student to enable him to think over the subject?—That would be an improvement.

24648. I suggest this plan, because I assume that there are really the conditions under which teaching has to be done in the school?—Yes, I understand that. Then there is another point. About the three lessons that are given in, the rule is that the three are handed in ten minutes or so before the student will be called up to be examined, and the one in which they will examine him is then given to him again to look over his notes, so it would be easy to extend the same thing to the impropriety lessons.

24649. Mr. RENNERT.—Do you think any subject would be taken up earnestly by the Queen's Scholars unless it were one of the subjects in which they would be examined?—It is very hard to get it

done, you teach under great difficulties if it be something outside their programme for promotion.

24650. I think it was suggested to-day that wood-work should be taught in the training colleges, but should not be a compulsory subject for examination, under such circumstances do you think it would be attended to well by the Queen's Scholars?—It would not be attended to unless the teachers felt that their examination would depend on it, and that is why I say let the training college prepare them and let them after school life promote them. Then we could teach anything, and the teachers would attend to it. Let him only get a nominal promotion in the training college, but let his real classification depend upon how he conducted his school outside.

24651. You think that promotion should depend upon good service in school?—Of course it should.

24652. But you would require some minimum knowledge from every teacher?—Yes.

24653. Most Rev. Dr. WALSH.—In the present column one?—Or column two.

24654. Mr. RENNERT.—If that were the case you would be in favour of giving the teacher promotion all through his school life, or through a large part of it, without any further examinations?—I would if he shows himself an efficient teacher, that is all we can expect.

24655. And you think that this would induce him to pay more attention than at present to lectures on Method?—Yes, it is his primary interest.

24656. Were you yourself in charge of a school?—A long time.

24657. Was it in a rural district?—Town and country.

24658. Have you taught agriculture?—Never.

24659. When you were in a country district was it not compulsory?—No, it is a long time ago since I taught there.

24660. Have you formed any opinion as to the value of the agricultural teaching given now in National schools?—I have no confidence in theoretical teaching apart from practical.

24661. From conversations with the teachers who have come up from the country for a one year's course, do you think that they themselves believe they are doing much good in teaching it out of a book?—They can never feel any fitness for the work outside the practical work, they have the theoretical knowledge, and it ends there.

24662. Would it be difficult to teach the elements of the sciences connected with agriculture in such a way that the teachers might be able to illustrate the lessons they give out of a book?—That would be very judicious work for a training college to undertake.

24663. Do you think they could easily be taught in a training college this elementary science?—I think even the professor of agriculture might know so much of it connected with agriculture as to make it interesting.

24664. If instead of the theory of agriculture, elementary science were a subject in training colleges, would that not enable the teacher afterwards to make his instruction more practical?—It would; it would help him in all his teaching, and besides that give him something that would be worth while carrying away with him, whereas agriculture is of very little value. Someone spoke of gardening—that is a different subject: there should be no rural school in Ireland without a garden and the teacher capable of giving instruction.

24665. He should give instruction in elementary botany?—Let practice go with natural science.

24666. Are there any subjects in the training college curriculum that you would wish to see absolutely omitted as unnecessary?—I would like to see in the college just exactly what would be required of the student outside, and there is nothing approaching a general requirement for French or Latin, or such subjects.

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24667. They are only optional in the colleges!—But then the colleges have them. The colleges have enough to do.

24668. Most Rev. Dr. WALSH.—They must take one optional subject!—Yes.

24669. Mr. REMONDON.—You would have no optional subjects taught in the colleges, that are outside the ordinary curriculum of the school?—I would not, I would have the training college do school work, and nothing else, or very little beyond it.

24670. Mr. MOLLOY.—In your opening statement you mentioned that five-eighths of the time now devoted to the training course was given up to preparing students in the programme for classification?—The matter of the other programmes.

24671. You would advocate the propriety, then, of doing away with that?—One half of their time they should be learning how to teach.

24672. Would you advocate the propriety of doing away with classification anything with it a money value later on?—I would.

24673. Do you think the time has now come, these colleges having been so many years in existence, that that course might be pursued?—I think so, and the teachers should come up for training knowing that on their success in teaching afterwards their promotion would depend.

24674. CHAIRMAN.—I think you said that so many would not want to come as at present?—They would want to come because the promotion could not be attained in any other way. He must be a trained teacher and capable of teaching well, and show by his school that he is teaching well, and then only promotion would come.

24675. Mr. MOLLOY.—Have you compared the course under the English and Scotch Department with our Irish course with a view to see whether they are on all fours for admission to the training college?—I think the tests are pretty much the same.

24676. If you look into your own subject, arithmetic, I think you will find that our programme is decidedly higher?—It is, our Irish teachers are very good in arithmetic as a rule.

24677. CHAIRMAN.—Is not that on the whole the subject that is best taught in the National schools?—I dare say it is, and our children have a wonderful aptitude for that, a few other things like music there should be no trouble in teaching them.

24678. Mr. MOLLOY.—You have had a good deal of experience—I am personally aware of that—in the practical work of school teaching quite independently of your position in connection with the training college?—Yes.

24679. Now from your experience would you contrast the state of education prior to the establishment of these colleges with the present time?—Do you think the schools are better taught now?—They are, unless where the results system damaged the old teaching. Under the old teaching the teacher made the school, and got his character from the school, not from individuals. In the present system you make your boys fit to pass an examination, but how you make them, what process you take, and whether you are skilled or unskilled if you pass that is all, and no more is given to the teacher who taught him properly.

24680. In your opinion the old system was more intellectual if the teacher were qualified?—Yes, but we had not then many qualified.

24681. The number of trained teachers at that time happened to be very limited?—Very limited.

24682. Where did they acquire that superior method of teaching?—Often at the expense of the school, and the teachers having a natural turn for teaching.

24683. Most Rev. Dr. WALSH.—Practising on the pupils?—Yes.

24684. CHAIRMAN.—Does not that do good to the boys?—No, it does not; the boys are disgusted with school life from your bad treatment of them.

24685. Mr. MOLLOY.—In St. Patrick's College how

many hours in the week are given to methods of teaching alone, or what proportion of the entire college time for the week is devoted to methods of teaching?—We have three sections—the first section, those that come in for two years, and are now in their first year, that is the lowest, we call them the junior, then we have those that were in last year and are now in their second year, we call them the middle division, and then those students who come in from schools for one year, looking for first class. To each division I give a model lesson of an hour's length; it may be one lesson or two, or sometimes three in the week, just one hour.

24686. Most Rev. Dr. WALSH.—One hour to each of these three divisions?—Yes, each division gets an hour's lesson; coming towards the end for the requirements of this examination by the inspectors it is necessary to increase that to two hours and very often more.

24687. Then the examinations are of some use?—It is no easy test for a man to be called upon, out of a thousand subjects, to teach one or one of them, I have generally to give lessons in 300 or 400 subjects.

24688. Mr. MOLLOY.—Are you quite satisfied with that number of lessons in the week?—Not at all.

24689. Perhaps these lessons do not include the time you are in the practising school?—These are special lessons given by myself for method purposes, but I never give a lesson in arithmetic or any other subject, and that the teacher should be able to go away and say that he saw any difference in the teaching of that, and the lesson I purposely give on Method. They are called in to hear a lesson on a subject, supposed to be a special one; but I am saying about what His Grace asked a moment ago about all professors, that I never teach a lesson but I go upon the lines exactly I would go upon in giving a lesson to children which they call a model lesson, a lesson of one hour a week before each section. In all my teaching, three or four hours in the day, I never take up a subject or any part of it that I don't teach in such a way as I would teach it to a class of children, the only drawback is that I need not teach it so minutely.

24690. CHAIRMAN.—Was that what you were referring to awhile ago, when you said it was not fair to practice on the children?—To learn proper methods from bad teaching.

24691. I don't understand in what way you mean you practice upon them bad methods?—A teacher takes charge of a school that he is not able to teach, he sees ill results, and day by day he begins to improve, he sees there is something wrong in his teaching, but half a generation may go out of his school and be all the time under bad treatment.

24692. Most Rev. Dr. WALSH.—Of course you are not speaking of what goes on in the practising school of the training college?—Oh no.

24693. CHAIRMAN.—That arises from the inefficiency of the teacher when he first begins?—Yes.

24694. You say he should be a more efficient teacher before he is allowed to begin?—Yes, a poor man's son might be fit for something decent, if treated properly, and he goes away a labourer, owing to bad teaching.

24695. Mr. MOLLOY.—You mentioned the disadvantages under which your college laboured from teachers coming up who were rusty and not able to pursue the course with younger men, was it not always in the power of the college authorities to subject those teachers to an examination on entrance?—It is in the power of the college, but it is felt to be a grievance to a teacher to bring him up from a school, where he has appointed a substitute, and then after examination by us, to be sent back again. It is a degradation to the man.

24696. Could it not be ascertained how long he had been away from examination—his age would indicate that point?—I think it was Mr. Redington

who suggested that they should be subjected to an examination.

24707. It was also the practice for some years in connection especially with St. Patrick's, that the reports of each candidate's school underwent examination by the principal of the college?—Always, he is very particular.

24708. He had an opportunity of seeing for three years the opinion expressed by the inspectors how those men conducted their schools?—He is very particular about it, notes it down.

24709. With regard to the impropriety test applied prior to the July examination, within your experience was not the test confined exclusively to elementary subjects?—At a rule, very seldom a departure from it, and I think that if an inspector felt it was a departure he would change the moment the teacher appeared to look as if he did not like the subject.

24710. And if a teacher happened to fail in that particular thesis?—I don't think it had much weight against him.

24711. Did he not get a further opportunity?—Sometimes.

24712. But your experience was that really the tests were applicable exclusively to elementary subjects?—School subjects. It was a little unfair towards men who were students who had never charge of schools, but those who had had charge of schools ought to be able to teach what they were called upon to teach.

24713. You mention that a great many managers were not aware of the essential difference between the first class and second-class training diploma?—No.

24714. Don't you think steps ought to be taken by the college authorities to inform the managers, applying for teachers that "So and so holds a first-class diploma"?—I think someone should make it known, but there is a wrong in that, that if you get a second-class certificate it is impossible for you ever afterwards to get a first-class—that is very wrong. A man may fail in being a good teacher and in a year or two become a good teacher. It is a pity to keep him down with a second-class certificate.

24715. A second-class teacher may have a first-class diploma, and a first-class man may have only a second-class diploma, he ought to be afforded an opportunity of taking a first-class diploma by improving his method of teaching in the school?—Yes, but he is scarcely concerned about it, because no one knows it or values it.

24716. You think it ought to be by some authority made more generally known than it is at present?—Yes.

24717. Rev. Dr. Evans.—Are there criticism lessons given at all by your Queen's Scholars?—Yes, on hour a week is given, a quarter of an hour for each lesson, from a quarter to half an hour by the students. All the teachers in the college are in the room at that time, and I myself see that they all have their criticism books. The teacher comes in with his notes of the lesson and hands it to me. I look at it while he is teaching and the teachers are listening and writing down in their criticism books their opinion on his teaching. When he has done teaching I call upon one or two to give their opinion upon it and when they have given it, I generally wind up myself.

24718. And the teacher that gives the criticism lesson in this particular case is one of the critics in another case?—He may be called upon to-morrow to give a criticism of the lesson.

24719. So that they criticize one another and help one another to practical and good methods of teaching?—By quite friendly criticism.

24720. And any erroneous or foolish criticisms would be corrected?—It is my business to look to that.

24721. Is any record kept of this?—I think not unless my own books would show it.

24722. Have you not a register in your training college in which the different opinions are entered?—No, I have a criticism book myself, you know, and the name of each teacher is put down and the subject he is teaching, and then my own opinion and some little reference to the criticism given by the teachers called upon.

24723. They have such a book in Marlborough street, and you will find the vice-principals in both cases, male and female, Miss Fulham and so on, supplying in writing their accounts, and those are recorded in a book which can be looked at any time in the training college?—I have my criticism book, of course, and the students keep theirs.

24724. But then there is no heading of it over to the principal to have it further recorded in any other book?—If the principal wishes to see the result of any particular teaching by the students on such a day, or criticism by a teacher, he can refer to me.

24725. In criticism lessons do you ever have drawing as one of them?—Sometimes. Father Campbell told me that never in the school was it asked for, and I think not, but with me the teacher is free to take what he pleases—the only thing I ask is that "three or four may come in for this day and see that you four have different subjects."

24726. As a matter of fact are you able to say that any did take drawing?—Oh yes, but they would be very odd cases.

24727. Not often?—Not often, because drawing is not well taught, we don't know much about it.

24728. Is it not obligatory now?—It is and a poor hand is made of it, it is a shame to call it drawing at all, there is no drawing in the country.

24729. Do you think the drawing-master would agree with you in that?—I think he would. My idea of drawing is that a teacher should be able to take the chalk and go to the blackboard and illustrate for his pupils, let their eye take in something that their mind might not take in easily. A boy is put to draw and he rubs out with indifference and after a time he gets a straight line—it is a labour to him and he will never take to it afterwards. If you look at those who have been a success at drawing you will find they had a readiness in sketching and were not corrected because the line was not straight.

24730. Rev. Dr. Wilson.—You say the programme puts you in a false position as regards methods of training, for five-sixths of your time is taken up in other subjects?—Yes, instructing in subjects rather than teaching them how to teach.

24731. Could you curtail those literary subjects?—You must either curtail those or extend the course.

24732. But you think you could curtail them without injury to the literary subjects?—Many of these things, taught to the extent they are taught, will never be used by the teachers in their schools afterwards.

24733. You say the teachers come up to be trained mainly to be classified; you would not mean that as an argument why training colleges should be dispensed with?—No, it is impossible to have teachers unless they are trained—teaching is too difficult a matter to be taken up haphazard by anyone. We have too many at it who are unfitted for it, no matter what their ability as scholars.

24734. Do you think that, suppose classification was not the reward of being trained, they would come in such numbers?—I would have it the reward, but I would only have it the first step toward classification. I would have them trained properly, and if they show the result of training in other life, reward them, but don't have them classified because they passed their course in some fashion.

24735. The previous witness stated your training colleges were quite full, and you had others applying that could not be admitted—what about the relative numbers of your schools and of your qualified persons

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to teach. Have you as many persons qualified as you have schools, as far as you know, taking all Ireland?—Oh, no.

24726. Or have you more qualified teachers than you have schools?—If we can speak of those who are trained, and have gone through a course of training, as fairly prepared for teaching, we have to hesitate about the large number who have not undergone any course of training—there need scarcely be a hesitation, they cannot be fit for it, unless those who have given ten or twelve years to it, and learned it from some means or other. We should turn out 400 or 500 teachers a year to meet all the requirements.

24727. Rev. Dr. STARR.—Just with regard to that, a Catholic bishop told me very recently that there are a very large number of teachers unemployed.—There may be. You have been told of some 2,000 monitors with a little modicum of knowledge, and a little knowledge of teaching, getting schools, but I am referring now to qualified teachers getting into schools. We would want to be turning out 300 or 400 teachers a year in order to supply the schools. Of course that is the Commissioners' fault that such boys leave the school after three or four years as monitors, the Commissioners have very little knowledge of what training the monitor goes through, it is enough that they have been four or five years under the name of monitor, and passed this examination, and into a school they are put—the manager has power to do it, and does it.

24728. Most Rev. Dr. WATSON.—There is an important matter upon which I should wish to have your opinion—it is about the system of the promotion and payment of the teachers: the best course is for me to state first my own view. It comprises, precisely, three points, and when I have stated them, I shall ask your opinion upon each, to see how far you may be disposed to agree with me. In the first place, I would have a qualifying examination, as at present, as the first step for getting into the teaching profession. So far there is nothing new. But my next point is a revolutionary one. From that out, there should, I think, with one exception, be no other examinations for the teacher. I would have an opportunity of getting trained given to every teacher, young or old, who might wish for it, and I would have a special rate of salary for the trained as distinct from the untrained teacher. By training I mean, of course, not mere preparation to pass examinations in certain subjects, but the acquisition of skill in the art of teaching; this, probably, would have to be tested by examination. But, with that one exception, I would have no more examinations after the one that admitted a man or woman to be a teacher; thus I would set the teachers free from the work of preparing for the series of examinations which at present they have to pass, from year to year, if they wish to get on; and I would leave them free, as teachers are in England, to give their time to their proper work—the work of teaching in their schools—and of improving themselves as schoolmasters and schoolmistresses. Then, finally, I would have a system of promotion, or rather advancement, for the teachers of each of the two classes, the trained and the untrained; that is to say, I would give them increments of salaries, improved status as to pensions, and so forth, on the basis of length of service and good work done in their schools. Now let us take all this, point by point. First, as to the qualifying examination: this we have at present, and I assume it should be retained.—Oh, of course.

24729. Then I would have a system of training, available for all who had passed the qualifying examination, including, as far as possible, the untrained teachers now in charge of schools, and then from the

outset, and all along the line, I would pay the trained teachers better than the untrained.—Yes, I agree with that.

24730. And what I mean by a trained teacher is, not one who has merely passed an examination in certain subjects, but one who is certified by competent authorities—the officials of the National Education Board—to have acquired sufficient skill in the art of teaching; teachers so certified should have a claim to payment on a higher scale.—They deserve better payment.

24731. The third point then is that I would do away with all other examinations in reference to the promotion or advancement of the teachers, and make that depend on their length of service and their work in their schools.—It would not be a bad system at all; the only objection I see to it is that it might give them a suggestion, which they would too readily take to, that they had learned enough, and it might lead them to give up their proper reading; I think a teacher must always read to keep up his knowledge; I would be afraid of that.

24732. Then you would have a subsequent examination or examinations?—Yes, but not a severe one.

24733. But take the medical profession or the bar. When a man goes to the medical profession he has to get qualified, and for that he must pass certain examinations, but then, when he has got into the profession, once he has got qualified, his advancement is not made so depend upon his passing a number of other examinations; it will depend on his practice, and for that he has to depend upon his skill, his fitness for his work, and the way in which he does his work. It is the same with the lawyer. No one thinks of worrying either doctors or lawyers with examinations on the plea that if they are not kept up to it by examinations they will give up their reading and fall away. Why should it be thought that a teacher under my system, if I may call it so, would give up study?—Well, the one who does not study will get as much salary as the one who does.

24734. No; that is what happens at present, once a man has got his promotion; my idea is that they would get their annual or periodic advancement, increments of salary, and so forth, only on condition of their doing and continuing to do their work well. I want to set them free from the work of cramming for examinations, and to leave them free to attend to their proper work, if they don't keep up their reading, as a teacher always should, their work in the school is bound to suffer, and they will lose in the end.—Yes, there is a great deal to be said for that.

24735. Of course each teacher should have the opportunity of knowing from year to year how he stood. I don't think that one year's falling off, unless the case was a really bad one, should tell very much against a teacher. But in any case an adverse report should be subject to revision on appeal. I may say to you again that this whole plan that I am sketching out is altogether my own. I know that it is as yet rather crude. But suppose that we had it well thought out, and had a good machinery provided for the working of it, would you approve of it?—Oh, fully.

24736. It would be necessary, of course, to provide for the teaching of special subjects, outside the ordinary all-round work of the school, and I suppose there might be some system of giving special certificates of fitness to teach these; and it has been suggested that the training colleges should deal only with the real work of the school, and that anything outside of that might be provided for by the holding of examinations, qualifying examinations, in order to the giving of certificates in those special subjects.—Quite so, it would relieve the training college seriously.

FIFTY-THIRD PUBLIC SITTING.—THURSDAY, NOVEMBER 11, 1897,

AT 11 O'CLOCK, A.M.,

At the Antient Concert Rooms, Dublin.

Present.—THE RIGHT HON. THE EARL OF BELMONT, G.C.M.G., in the Chair; HIS GRACE THE MOST REV. WILLIAM J. WALSH, D.D.; THE RIGHT HON. C. T. REDINGTON, M.A.; THE RIGHT REV. MONSIGNOR MOLLOY, D.D., D.S.C.; THE REV. HENRY EVANS, D.D.; THE REV. HAMILTON WILSON, D.D.; and W. R. J. MOLLOY, Esq.;

with J. D. DALY, Esq., M.A., Secretary.

Professor GEORGE PETTOS, M.A., Marlborough-street Training College, Dublin, examined.

24737. CHAIRMAN.—You are a Professor in the Marlborough-street Training College?—Yes, my lord.

24738. What are you professor of?—English.

24739. I believe you have some suggestions to make with regard to kindergarten occupations in National schools?—I would suggest that the kindergarten occupations, which at present are carried on only in infant schools, should be extended to the first and second, and, possibly, third classes of the ordinary National schools. A child in the first or second class in an infant school, spends a certain amount of time at those kindergarten occupations, in an ordinary school a child of the same class does not spend any time at kindergarten work. My suggestion is that the pupil in the ordinary school should spend some time at kindergarten occupations.

24740. In the same way as the child does in an infant school?—In the very same way.

24741. Coming to drawing, in what respect do you think the present programme is incomplete?—It is incomplete first with regard to its extent. We have no programme for drawing in the ordinary school in the first and second classes. The drawing begins only in the third class, and a pupil who does not attend at an infant school, receives no instruction in drawing until he or she comes to the third class. That is too late to begin the teaching of drawing.

24742. What suggestions do you make for revising the programme in the method of examination?—Then I would wish to include in the programme for drawing, mechanical drawing, in the first and second classes, that is, drawing with a ruler and measuring with a ruler.

24743. From the very beginning?—From the very beginning. I have experience of that in schools; I have tried it myself. It is very simple; there is no difficulty about it. Then with regard to the examination in drawing in the junior class, I would suggest that the present system of examination should be changed to something like what I have seen in other places—examining the schools in sections. One section of the class is examined in mechanical drawing, and in addition to merely drawing these figures upon slate or paper, the pupils are questioned upon the figures. They should know the names of the figures drawn, such as square and rectangle and diagonal, even at a very early stage. I have been present at an examination held by one of the Science and Art Inspectors, in England. He examined a very junior class in this way, and I think it is a very good system of examination.

24744. Do you think that the present teachers are qualified to teach drawing as a rule?—Every teacher is sufficiently qualified to teach drawing, as a rule, up to third or fourth class.

24745. Whether they have a certificate or not?—Whether they have a certificate or not.

24746. Now, with regard to object lessons, do you think that elementary science should be taught ex-

perimentally?—Object lessons and elementary science should be taught experimentally. I think object lessons ought to be made compulsory in all schools. Every teacher who is able to teach, can teach object lessons, and the materials required for object lessons are such as are within the reach of every teacher.

24747. First of all, tell me what you mean by elementary science exactly; what range?—There seems to be some difference of opinion as to what should be called elementary science and object lessons in the books on the subject.

24748. Are you confining it to chemistry?—Not necessarily.

24749. Then will you tell me what should be taught experimentally?—Any science taken up ought to be taught by the teacher by actual demonstration and by calling upon the children to make experiments, and not taught from books. I have taught science classes under the Science and Art Department, and the method of teaching for the Science and Art Department would be too advanced for our schools. In these classes a great amount of time and energy is devoted to teaching the pupils how to write answers to questions; that is not what we want in the National schools, but to make experiments and ask the pupils to make experiments.

24750. Have you taught them to make experiments in the way of measuring and weighing substances?—Not to any great extent.

24751. That is what I had in my mind when I asked you that question, because I have seen it done in English schools. Do you think that it should be made compulsory?—Object lessons should be made compulsory in all schools at once.

24752. And what time should be devoted to those lessons?—One object lesson per week for each pupil would be the minimum.

24753. What arrangement do you think would be suitable for small schools with one teacher?—I would group the children into junior and senior divisions, and teach one object lesson to the junior class, and another object lesson to the senior class.

24754. Now will you tell me the nature of such lessons as regards either of these groups?—As regards the junior children, the object lessons would be very simple, they would be upon objects with which the children are more or less familiar, such as fruit or vegetables, simple objects, or they might be simple lessons upon phenomena.

24755. With regard to the higher group?—They might be upon weights and measures, or what we call more particularly elementary science, some of the facts of elementary science treated experimentally; they might be upon any article that is manufactured in the locality. They should be arranged, in my opinion, so as to suit the children, and therefore the teacher ought to have the privilege of making out his own set of object lessons, and submitting it to the Inspector.

24756. How many lessons do you think should

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constitute a year's course?—From twenty to thirty, if there was to be a results examination I would say twenty, because a greater amount of repetition would be required towards the end of the course; if there was no such result examination it might be thirty.

24757. Do you think that the subjects should be arranged to suit the locality?—I do.

24758. What do you consider to be the general advantages of this scheme?—One of the great advantages of this scheme would be that these object lessons would serve as a basis for teaching English composition. Even the very junior children might be taught how to make short sentences, they have the objects before them and they know the names of these objects. They can make simple statements orally in the junior classes. The next step would be to commit these statements to writing, and in the senior classes the whole lesson might be written out as an exercise in composition. Such a change is wanted very badly in the National schools.

24759. As regards the practical application of mechanical drawing will you give the Commission your views upon the various subjects that could be connected with that matter?—I have seen the drawing applied to a variety of occupations, paper-folding and cutting out, paper modelling and cardboard modelling, drawing and colouring elementary designs, clay-modelling, wire-working, wood-working, and metal-working.

24760. How far are these practical in National schools?—I don't think metal-working practical at all in National schools. The wood-working I would recommend to the large schools in towns in the higher classes. Wire-working is useful; it serves to show the child the practical application of drawing. It is useful but it would require an enthusiastic teacher to make much out of it.

24761. There is no good in having a teacher who not only does not understand it, but is not enthusiastic?—It is very little use when it is taught by a teacher who does not take an interest in it.

24762. How could you provide qualified teachers?—The only practicable way of doing that is to send teachers round to certain centres and to begin first with the teachers in the town schools.

24763. Would you begin with the pupils in Marlborough-street first?—I include that in the town schools.

24764. I mean the Queen's Scholars?—Oh, yes, but in order to introduce it.

24765. You mean you would send the existing teachers to centres, those who are at present in schools?—Those who are at present in schools ought to be afforded facilities for learning the subject.

24766. You would establish local centres where classes could be given in wood-work?—Yes. Saturday classes I would suggest.

24767. The same as we saw at Penrith in England, where a number of teachers came in to learn on Saturday?—I have not seen that school, but I was present at one in Ambleside, a vacation class, and I was present at the evening classes for teachers in Barrow.

24768. How could you provide accommodation in the present schoolrooms for the classes, as regards the children?—For wire-working I think the ordinary desks would afford sufficient accommodation; for paper-modelling and cardboard-modelling and clay-modelling, I have seen the desks covered over with thick cardboard.

24769. As regards wire-working such as we saw in Birmingham, there is no difficulty at all about it, with an ordinary table is there?—No. It can be done on an ordinary table.

24770. They only have to fold the wire in certain patterns; it does not require any special table?—No, my lord, and for the kindergarten working, it is not necessary to have expensive kindergarten desks.

24771. Is the point of your suggestion that the desks have a sloping surface?—I don't think

that makes much difference to the ordinary teacher. Our desks nowadays don't slope very much. In older times they used to slope a great deal more. An ordinary table would do in a small school for kindergarten working, and it is quite possible to cover the table with ruled paper. The ordinary desks that I am accustomed to would do very well. With regard to wood-working, if that were to be introduced it could not go on during the ordinary school hours.

24772. It could not go on as a rule in the school-room at all, unless there were more rooms than one in the schoolhouse?—Except in this way, that there might be an hour devoted to it, if the junior pupils were allowed to go home at two o'clock on one day of the week.

24773. Then you would have to shift the desks and put in benches?—Yes, my lord.

24774. Now what do you think about the present course of agriculture?—We have too much theory in the present course and I think that we scarcely begin in the right way in the teaching of agriculture. We begin by placing a reading book in the hands of the children. I would suggest that the teaching of agriculture in the fourth class should be based upon object lessons, and if the teaching were based upon object lessons the subject might then be extended to girls' schools.

24775. It is taught in girls' schools now to some extent, is it not?—Only to a very limited extent. I think girls are as much interested in the growing of vegetables and flowers as boys, vegetables and flowers, such as are grown in the neighbourhood.

24776. You think that the programme for the fourth class should be limited to a knowledge of the principal vegetables grown in the garden, and of the best known flowers in the neighbourhood and the manner of growing them?—I do.

24777. Do you think that collections of specimens should be made?—And kept in the school.

24778. And would you examine the pupils mainly on those specimens?—Yes, if examined in any other way the pupils won't answer and the teacher won't be satisfied with the method.

24779. Would you advocate a more general introduction of school gardens?—I would for boys' schools only.

24780. At present there are only eighty-two school gardens, can you make any practical suggestions as to how school plots of a small character can be obtained, whether by purchase or by renting them?—Eighty-two school gardens would be only those in connection with the National Board at present, but a great many of the teachers in the country have small gardens of their own, which would in my opinion be quite sufficient for teaching purposes.

24781. But in cases where there were no gardens, either attached to the school or the teacher's house, how could you suggest that gardens could be obtained with the least friction as regards taking up the land from someone else. Would you be for purchasing or hiring them from a neighbouring farmer?—I think hiring would be a cheaper method.

24782. You are aware that that is the plan of the Congested Districts Board?—I don't know much about that.

24783. We have it in evidence that that is so. Now what do you say about needlework for girls?—The present regulation is, that one hour per day should be devoted to needlework, five hours per week.

24784. What number of hours do you think would be sufficient?—I would not like to recommend that that time should be taken away from needlework, but my suggestion with regard to needlework would be more in the direction of method.

24785. It has been stated to us by a high authority, and it is the case in England, that only three hours are given for needlework—it has been suggested to us that the two hours saved from needlework might be devoted to such things as cookery?—I would not like to suggest a reduction in the time devoted to needle-

work, but, I believe, from three to four hours ought to be quite enough because the pupils will have opportunities of practising needlework at home. The suggestion that I would make with regard to the teaching of needlework is that in all large classes there should be demonstrations, and further, some object lessons upon the materials used. The children are very often working away at materials, which they don't know enough about.

24786. Rev. Dr. WILSON.—You would confine the needlework to plain work?—Plain work.

24787. At what stage would you begin the needlework, what class?—Second class, virtually it begins in the infant school.

24788. And you would carry it on through?—Right through.

24789. You think the programme in drawing is incomplete?—Yes, doctor.

24790. You would begin the drawing, would you, from first class up?—In the infant school and carry it right through.

24791. Has that been done hitherto?—No, in the first and second classes we have no drawing in the ordinary school, so that in the ordinary school a pupil begins to learn drawing when he enters the third class. If drawing were taught in an extended way less time need be given to the teaching of handwriting.

24792. Of course the number of teachers that are able to teach drawing is increasing, but is there not still a large number who could not teach drawing?—A very large number who have not got certificates, but not so large a number who would be unable to teach drawing.

24793. Rev. Dr. EVANS.—You are not satisfied with the present programme for drawing?—No, doctor.

24794. Can you, as an experienced teacher and professor, put very compactly what you think now should be done?—In the first and second classes I would introduce mechanical drawing, that is drawing with a halfpenny ruler, the measuring of lines drawn on slate, paper, or blackboard, and the measuring of simple objects, such as the slate or paper. I would begin the practical training of the boy in first and second class. It is a very simple work for the teacher; any teacher can do it.

24795. Could a teacher do it who has not got a certificate?—Yes, any teacher could do this.

24796. You believe now that drawing could be efficiently taught in ordinary National schools by a teacher who was not certificated in drawing?—I won't go so far as that, in the present classes I have said.

24797. Do you think it is possible for the teachers of the training college to favour drawing, by encouraging the Queen's Scholars to make it one of the three subjects in which they give a model lesson?—To make it compulsory?

24798. No, not compulsory, but to influence them as much as you can by advice?—As a matter of fact we do that, our students take up drawing as one of the three lessons taught before the inspectors.

24799. Do any considerable proportion of them do it?—A fair number.

24800. With regard to the advanced drawing in National schools, or at a further degree of progress than you have just now mentioned, do you think it is possible for it to be taught in a National school without the teacher having a certificate?—I should say not in the fifth and sixth classes.

24801. Then you could not make it compulsory all over the country?—No, I don't think so at present.

24802. With regard to agriculture about which you were speaking a little time ago, is any instruction given in the National schools, where agriculture is taught, about the insects and other things that are prejudicial to crops?—Nothing except what occurs in the book. The teaching of agriculture involves itself into an explanation of the reading book, and whatever occurs in the book is explained and sometimes illustrated, but only sometimes.

24803. Mr. MOLLAY.—Would you kindly explain

to the Commission what you mean by an infant school, there are organized infant schools and there are infant departments in the ordinary schools, would you just develop that, what is the highest class that may be in an infant school?—Third class.

24804. Rarely, however?—Rarely.

24805. As a rule the infant school, properly so-called, consists of mere infants, then of first class pupils, and then of second class pupils, and occasionally of a few third class pupils?—Yes.

24806. And in the ordinary schools you have infants?—Infants, first class, second and third, and so on.

24807. As a rule there are infants to be found in every school?—Yes.

24808. And your proposition is to extend the Kindergarten instruction in the ordinary schools, not to confine it to mere organized infants' schools?—Yes.

24809. CHAIRMAN.—In cases where they have very large schools, where there could be both an infant school and an ordinary school, I would like to know how the classes would come then, where would the class begin in the ordinary school?

24810. Mr. MOLLAY.—Take a convent school, that has a separate infants' department conducted in a separate building, the pupils of that may be up to third class?—Yes, and may remain there until they are in their ninth year.

24811.—A certain portion of the third class will also be in the principal school, so to say?—Yes, because if a pupil comes to school after seven years of age he must be enrolled in the ordinary school.

24812. CHAIRMAN.—Then in such a case the third class might be partly in the infants' department and partly in the ordinary school, and in that case the ordinary school would begin at third class and go up to sixth?—Yes.

24813. Mr. MOLLAY.—And you might even have the second class in the ordinary infant school, it depends altogether on the age?—Yes.

24814. A pupil who entered school at eleven or twelve years of age, and was fit only for first or second book, would be put in the principal school rather than the infant school?—They must be put there according to the rules, and then such a pupil would get no instruction in kindergarten.

24815. CHAIRMAN.—Then, in fact, it would be possible in some extreme cases, owing to the age of the pupils that part of the third and part of the second class should be in the infant department, and part in the general school?—Quite so.

24816. Mr. MOLLAY.—Your proposition also was to extend the kindergarten instruction to the ordinary schools?—Yes.

24817. A great many of the ordinary schools are conducted by masters—would you see any objection to the masters giving instruction in kindergarten?—I would not see any objection to them giving such instruction, but they should be trained to it.

24818. As a matter of fact, in the Marlborough-street College do the masters receive any instruction in kindergarten?—We bring them to the infant school about three times during the season, and they see the kindergarten work going on; they hear the object lessons taught to the young children, and they are present at manual drill, and so on, so that they get a fair general idea of infant school work.

24819. Would you think three lessons sufficient?—It was not intended to teach them kindergarten, but to give them an opportunity of observing the work in the infant school.

24820. Your proposition now is that they should give kindergarten instruction, and, therefore, they ought to get some training in it?—Yes.

24821. Is there any member of your body who gives instruction in kindergarten?—Dr. DeBerty is responsible for that work.

24822. And gives instruction to men or women?—Women.

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Parsons
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24823. Women exclusively!—Of course, in dealing with the principles of instruction, he has to refer to kindergarten, but there is no regular instruction in kindergarten for men.

24824. Would you see any objection to the kindergarten instruction being carried out in the schoolroom where there is only one room?—Not very much, if there is only one room it will be a small school, and the young children ought to have some occupation.

24825. By occupation—that is a technical word—you mean kindergarten occupations?—I do, they ought to have some such work. At present the little children are very often doing very little educational work in the schoolroom. There is not sufficient work for them to do, and their time is not fully occupied.

24826. You said you would extend, in the organized infant schools, kindergarten instruction to first and second class, does not the programme at present make provision for that?—I did not say extend it to first and second classes, but to extend it to the ordinary schools.

24827. In the ordinary schools you would not confine it exclusively to the second class, would you not extend it to higher classes?—Yes, afterwards, I would not go on with the simple occupations of kindergarten beyond the second class.

24828. Have you turned your attention to any scheme by which that could be done?—Not in any detail, but I have been thinking the matter over a good deal.

24829. Perhaps later on you might be able to send in a statement?—The work in the third class becomes of a special character.

24830. Would you briefly indicate the special character of the work of the third class?—The drawing on the paper comes first, then cutting out on paper and mounting and that requires special training on the part of the teachers.

24831. You have not indicated in any way what you think would be suitable for the fourth class?—So far as I have seen it would have to be either card-board work or wirework; it might be elementary designing, such as I saw carried on in some of the schools in England.

24832. You referred to object lessons; would you give a further idea of what you mean by the object lessons?—Under the head of object lessons I include all the lessons in which the teacher makes use of objects. I would include what some call elementary science. In the junior classes the object lessons ought to be such as would appeal to the children's own intelligence. The lessons may consist of instruction upon the different kinds of flowers and fruits, and common vegetables of the neighbourhood, and so on. Then I would go on from that, and in the senior classes have elementary lessons upon science subjects with experiments in every case.

24833. And as far as possible to place the object before the pupil if it were a flower, that a flower would be exhibited, and if not, pictorial representations?—I would like to see more than the object before the pupils, I would like to pass the object around among the pupils, even very young children, and allow them to handle it.

24834. If I mistake not, you were the head master of the Trim Model School for some time?—Yes.

24835. And you had science instruction going on there?—Yes.

24836. What sciences were taken up?—Under the Science and Art Department I taught magnetism, and electricity, sound, light, and heat, physiology, practical plane, and solid geometry.

24837. Were those lessons given outside the ordinary school hours?—Yes.

24838. And also on Saturdays?—No.

24839. They were evening continuation lessons under a local committee?—Yes, the ordinary committee recognized by the Science and Art Department.

24840. Were the senior pupils in that school taught mechanics?—No.

24841. Were they taught the object lessons you refer to?—I might say a few pupils were taught mechanics, but it was for the intermediate examinations, and outside school hours.

24842. Were the senior pupils or any pupils taught the object lessons?—Yes, occasionally.

24843. Object lessons in former years came under another head, would you extend it beyond what was known formerly as common things?—Yes, I would extend the object lessons in the direction of science-teaching pure and simple, object lessons would be for the junior classes, and only in the senior classes I would have science teaching.

24844. Had you any laboratory?—I had no chemistry class; I had a small laboratory there, but did not teach the subject.

24845. Those other subjects, acoustics, light, and heat—were they taught theoretically?—Experimentally, I had apparatus—I purchased most of it myself—and a great deal of it was made by the pupils, in fact every pupil had some apparatus in his own house.

24846. What pupils attended this class?—Pupils of the sixth class, monitors and pupil teachers, and I had some teachers for a short time attending the classes.

24847. No objection was offered by the parents of the pupils to attending an extra hour?—The pupils don't raise any objection to instruction carried on as I carried it on.

24848. How long was it carried on under your direction?—I had no difficulty in keeping the pupils until five o'clock, if I wished, for the science work.

24849. By demonstration lessons in needlework do you mean what is generally known as needlework skill?—Not merely; I would like to see the classes taught, for instance, to put on a patch, by a teacher taking an enlarged copy of the material to be patched; there is a regular set of apparatus which we have in our schools in Marlborough street, and which has been introduced recently. It consists of a number of pieces of material prepared for working on. The teacher mounts these into a frame, and demonstrates before a large class. She uses a large needle, four times the length of an ordinary needle, and a coloured thread, which enables her to show how the thread is worked in and out through the material. All the work of mending and darning can be shown to a whole class.

24850. Would you also advocate the use of the blackboard in conjunction with that instruction?—Yes. It is practically the same method, but is an improvement on the blackboard.

24851. We saw both simultaneously used. The teacher illustrated on the blackboard, and passed round the object?—Yes, I have seen that.

24852. Monsieur Muller.—I think you said that you have in past years taught various branches of physical science to the pupils of the schools at Trim?—Yes.

24853. Do you know whether these subjects are taught there now?—They are not taught under the Science and Art Department now. It is owing to the change in the regulations made by the Science and Art Department. They don't now pay for the passes as they used to do in my time.

24854. CHAIRMAN.—They made it harder?—They don't pay for second class passes.

24855. Monsieur Muller.—And in consequence of the change, these subjects have been given up in Trim?—In Trim and in several other schools in Ireland.

24856. So that the teaching of physical science in primary schools has fallen of considerably of late years?—Almost entirely.

24857. It seems to follow that unless some step be taken by the National Board to restore the teaching of physical science, it will cease altogether?—It does.

24858. Mr. MOLLAY.—It is given up also in Moulborough-street!—It is.

24859. Monsieur MOLLAY.—You are of opinion that elementary science ought to be made compulsory in primary schools, as far as can conveniently be done?—Yes.

24860. In elementary science, I gather from your evidence, you include both natural history and what may be called physical science?—I include both.

24861. Natural history deals with animals, plants, and minerals, and may be taught largely by the aid of object lessons?—And the manufacture of simple objects I take in under the head of object lessons.

24862. You can show the object and explain it?—Yes.

24863. But with regard to physical science, don't you think that actual experiment is necessary?—Actual experiment is necessary.

24864. If that subject be introduced, you are of opinion that a certain latitude ought to be allowed to the teacher as regards the details of the programme?—Yes.

24865. The programme might be varied according to the local circumstances of the school?—Yes, the teacher ought to have the arranging of his own series as far as possible.

24866. Would you give him absolute power, or would you require in each case the approval of the inspector?—It should be subject to the approval of the inspector, and the list should be hung up in the schoolroom.

24867. By the list I suppose you mean the detailed programme?—He should draw up a list of the lessons to be taught, and go through that list in the year.

24868. And before he begins the programme of lessons it should be approved by the inspector?—I should say so.

24869. Do you not think it desirable that certain general principles should be taught everywhere, such as the composition of water and air, the simple phenomena of heat, the units of measurement, the general properties of matter, weight, and so forth?—I do.

24870. And perhaps some rudimentary principles of magnetism and electricity?—I do.

24871. Therefore your view really is that there ought to be a general course of physical science which would be compulsory?—Which would be compulsory.

24872. And then some latitude might be allowed to the teacher with regard to the choice of a specific course outside of that general course?—That is exactly my view, first a general course, and, afterwards, where possible, a special course in one science.

24873. Which would be left very much to the choice and capacity of the teacher?—Yes.

24874. You have taught the subject of physiography under the Science and Art Department?—Yes.

24875. Do you know the present programme of physiography in their directory, I believe it has been quite recently published?—No, I have not seen it.

24876. Mr. MOLLAY.—You have seen schools in Liverpool and Barrow where manual instruction is carried out?—Yes.

24877. Do you think that the cardboard work, that you saw there, would be approved of by the teachers and the parents of the pupils in our schools, would they not criticize it as being a useless expenditure of time?—I would not call it a useless expenditure of time, but it would be necessary to train the teachers to teach it. It is not a useless expenditure of time. A little experience of it would prove its value.

24878. I don't think it is, but would parents object to their children being taught to fold up pieces of paper and paste them together?—They might at first, but after a while that objection would die out.

24879. Did it seem to you that that was very useful?—A very useful course.

24880. It is always done in connection with drawing?—It teaches the pupil at once the practical

application of drawing; it is, perhaps, the simplest means of teaching the practical application of drawing.

24881. Did you see cookery courses in operation in Barrow?—Yes, I saw the cookery classes in Barrow, in Liverpool, and in London.

24882. In some of these cities cookery is taught in centres; in other places it is taught in the school itself?—Yes.

24883. Which would you think the best course?—I prefer to keep the children of one school in that school; the other system works well under the School Board, but it would not work well here, I believe.

24884. Did you see any rural schools in England?—I saw a small school in the Barrow district, Ros Island.

24885. What manual occupations had they there?—They had all the manual occupations except—

24886. Except woodwork?—I was going to say that; but then the pupils go to the centre school at Barrow for this instruction.

24887. Monsieur MOLLAY.—They have basket-making?—That is an industry pure and simple; I don't know how far we are concerned with industries in primary education, I have a small basket which was made by young children in that school.

24888. Mr. MOLLAY.—In that rural school was there any objection to these manual occupations?—I think not.

24889. Do you think, therefore, they might be introduced into our rural schools?—I think they might, if the teachers were able to teach them.

24890. You said you would be in favour of making this cardboard work a compulsory subject?—Oh, yes, I would be in favour of making it a compulsory subject if the teachers were able to teach it; but I know the teachers could not at present teach the subject. If they were competent to teach it I would be in favour of making it compulsory.

24891. If science teaching were developed in our schools would there be great difficulty in providing apparatus?—I would not consider it a great difficulty; there is a difficulty in providing apparatus for the variety of lessons in different science subjects of the general course. The cost of providing apparatus for one science appears to me to be much less than that of providing the apparatus for a general course, but a teacher who could do this cardboard work would be able to make most of the apparatus required.

24892. You don't think that the cost of the apparatus ought to be a bar to the teaching of elementary science?—I don't think so at all.

24893. With regard to agriculture, you said it ought to be taught by object lessons in the fourth class—how would you teach it in the higher classes?—I would be disposed to make it practical for rural schools, to have the subject taught in the gardens.

24894. If there were no gardens how would you teach it?—I would be disposed not to teach it at all.

24895. Then you don't think our present system is a proper one?—It is all book-learning and word-teaching.

24896. From your experience as a former model school teacher do you think the study of that book has benefited the pupils who afterwards become farmers?—I have no reason for saying it has. I think those who want to become farmers learn the farming at home. I don't think it has any great effect upon the farming of the country.

24897. CHAIRMAN.—Do you think that, having had their attention turned to the subject by having learned these lessons upon agriculture at school, afterwards these men, when they have grown up and become farmers, are induced to read on the subject of farming?—It ought to, my lord, but I have no reason for saying it does.

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Nov. 11, 1883.
Professor
George
Payson, Esq.

Dublin,
Nov 11, 1897.
Professor
George
Payson, LL.D.

24988. Mr. REMONDON.—Is it not a fact that in order to understand the papers which are written on scientific agriculture some elementary knowledge of chemistry is necessary?—It is very desirable. With regard to the practical teaching in the gardens, I would just like to say that if the teacher is to give the instruction in agriculture in the gardens then the junior pupils cannot be looked after, and I would suggest there be an arrangement somewhat similar to the arrangement that might be carried out on the case of working in wood in town schools—viz., to send away the junior pupils at two o'clock on one day in the week.

24989. Most Rev. Dr. WALSH.—In connection with one of the manual occupations that you mentioned (basket making), you made an important distinction between industrial and educational work. I take it that you do not consider that industries, as such, are at all in place in a primary school?—I do not.

24990. Such a thing as basketmaking you view simply as an industry. When you speak of woodwork as a desirable subject to introduce into the schools, do you advocate the introduction of it with the view of preparing the boys to be carpenters?—Oh, no, decidedly not.

24991. And, as I assume, that when you advocate the teaching of gardening, you do not advocate it with a view of preparing the boys to be gardeners?—Oh, no.

24992. Now, let me ask you about agriculture—when the teaching of agriculture is brought into our primary schools, is there not some reason to think that this is done because the boys are to be taught to be farmers?—The teaching of agriculture in the advanced classes appears to me to be done with that view.

24993. I take it for granted that you do not think that anything of that kind is a natural or proper object for even a portion of the energies of the teacher of a primary school to be directed to?—I do not think so, your Grace.

24994. There is no more reason why boys should be trained in a primary school to become farmers, than there is to have them trained to become carpenters, or tailors, or shoemakers, and although manual and practical instruction may have, as undoubtedly it has, an advantage in laying a foundation for special instruction that may afterwards come on in reference to these occupations, such instruction is in place in a primary school only in so far as it is educational in its tendencies?—That is my view.

24995. Then you would draw a broad line of distinction between the kind of manual and practical educational work that you advocate, and the teaching of a trade?—Oh, yes. I don't think the teaching of woodwork, in so far as it is a branch of schoolwork, could possibly be called the teaching of a trade.

24996. But you are aware that there is a good deal of confusion on this matter, not only in the public mind, but in the minds of many of our National school teachers?—I am.

24997. Of course they are not to be blamed for it; the feeling is stirred up for a purpose, and unfortunately they are easily misled. You are quite clear as to the essential distinction between the work of manual and practical instruction in a primary school, and the teaching of a trade?—The number of hours during the three years course would be about 240, if the child attended on every day that the woodwork is taught allowing for eight hours a day, that would make about thirty days in the three years.

24998. I quite follow that; of course a trade could not be taught in the time; but my point was not in reference to the amount of time given to this branch of schoolwork, but to the direction that should be followed; it should be taken up and dealt with in its educational aspect only, and not as instruction in farming, or in the carpentry trade, or in any other particular trade?—That is my view of the object of all such teaching.

24999. It is desirable, is it not, for everyone, to master what occupation in life he is to go to, that he should acquire certain habits of neatness and order, any of us may have sometimes to put down a number of things on a table to illustrate something or other; it is well to have the idea of putting them there in a symmetrical or orderly way, and I suppose a well constructed system of manual and practical instruction in the primary school is likely to be of use in instilling ideas of order and neatness into the minds of children; that, I take it, is what gives this kind of instruction a place in the primary school?—That is my opinion.

24990. Now let us take another point. You were asked about the cost of the apparatus required for these practical branches, did I understand you to say that there would not be much difficulty in providing the necessary apparatus?—For science I think not so much, but for woodwork there would be.

24991. Please tell us the schools which you have had experience of up to this?—The schools in Marlborough-street, and Trim Model School, Inchmare Model School, the Model School in Dunamway, Ashy, Enniscentry, and a National school in the country.

24992. Now as to these schools, whatever apparatus there was in them, how was it provided?—I can only answer you about Trim, I provided the greater portion out of my own pocket.

24993. So the locality did not do much for you in the way of providing funds?—They formed a committee for me and I was very much obliged to them for the great interest they took in the welfare of my science class.

24994. Forming committees to get work done by other people who are willing to put their hands in their pockets and pay for the work, is a rather popular form of so-called philanthropy with a certain number of people in Ireland. But, coming down to the hard facts of the case, don't you think there would be a considerable difficulty in getting the public in Ireland to put their hands in their pockets to subscribe any substantial amount for any really educational work, in the true sense of the word, such as this manual and practical instruction that we are talking about?—Just at present I think there would be.

24995. Yet the want of it is a subject of universal clamour all over the country. As you are an advocate of this kind of instruction, I may mention to you that when we were in Edinburgh we found that the city raised £80,000 a year by an educational rate taxing the citizens to that amount, now, that is the way in which the city of Edinburgh is able to provide for these various branches of education; do you think that there is even the most remote possibility of the city of Dublin raising £80,000 a year by a city rate for them for any other educational purpose?—If they were allowed the control of the schools, I dare say they might.

24996. You think that if the Dublin Corporation were allowed to add to their present multifarious duties, the management of all the National schools of Dublin, they would levy a school rate, such as is levied in Edinburgh? I think I can say that if our education and town councillors were wild enough to think of such a thing, not many of them would return to the municipal council after the next election. But as to management and control, you are mistaken in supposing that the taxing body in Edinburgh has any control over the schools, the managing authority, there it is the School Board, tells them that £80,000 is the sum required for the year, and they have no option, they are bound by law to raise it. Now so much upon that point. You have been asked about kindergarten. This is a subject about which there is a great deal of confusion in the public mind, and I should wish you to give us some information towards clearing up that confusion, as I am sure you are capable of doing. Of course you are acquainted with the leading works on the kindergarten method of instruction?—Yes.

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24917. What do you understand kindergarten to be?—It is a method of teaching children, teaching them to observe, to use their hands, and to talk properly about things.

24918. To use their eyes, to use their hands, to observe accurately, and to express themselves accurately. We mean, of course, with such accuracy as can be expected from very young children?—Yes, your Grace.

24919. According to Froebel's idea, kindergarten was a method of instruction specially suited for children up to six or seven years of age, is not that so?—I believe that is the limit.

24920. Now, according to Froebel's idea, was the kindergarten a part of the school, or rather did he not make an express distinction between the two things?—He held, I think, that children below six or seven years of age should not be let into school at all, that they should be kept at the kindergarten, the nursery as it were, is not that so?—Yes, your Grace.

24921. Did Froebel not also say that the children who were not at school, but in the kindergarten, should not be allowed to learn the use of letters, or to learn reading or anything that was afterwards to be a portion of the school course?—That, I think, was his view, so that in a country like Germany, where kindergarten is taken in the strict sense of the term, there would be an absurdity in looking for kindergarten in a school?—That is so.

24922. When we speak of kindergarten in these countries, we are, of course, not speaking of kindergarten in the strict sense of Froebel's system or in the sense in which kindergarten work is done, as of course you are aware that it is done in Germany, not in the schools, but in establishments distinct from the schools?—Yes.

24923. Then, let me ask you, in what sense do we in Ireland take the word kindergarten?—This is a very important matter, and I should wish you to explain it fully for us?—Kindergarten's teaching, as we have it, consists of a series of occupations, which the children are taught to practise with the object of making them observe things and use their hands.

24924. But this is only, as it were, the mechanical aspect of the case; all this that you refer to is the outcome of a principle, and a highly sensitive one; the child's natural powers are to be drawn out, materials and opportunities are to be supplied to the child, not to get the child merely to do a number of set exercises, but to let the child thinking and working for itself?—That is the object of the kindergarten system.

24925. And then the school is made attractive, and pleasant, instead of uninteresting, ideas are associated with it, all this has a very useful effect?—Yes, your Grace.

24926. Here in Ireland we have not the kindergarten system, at least in our public, I mean our National schools; we have a modification of it, that is, the work of our infants' schools is largely influenced by the kindergarten idea, that, I think, is what it comes to?—Yes, your Grace.

24927. And this is the sense in which we speak of kindergarten whenever it is spoken of in connection with our public system of primary education in Ireland?—Yes.

24928. You are aware, of course, that the same is true of England and Scotland, and possibly of other countries?—Yes.

24929. As you are also aware that with kindergarten, in Froebel's sense, as the German sense of the word, we have nothing to do, because kindergarten, in that sense of the word, is a thing essentially excluded from the school?—That is so; "the children's garden" is a thing quite apart from the school.

24930. Am I not right in supposing that Froebel had before him the idea of a method of instruction to be followed, at all events to a large extent, in the home, the mother was to be the first teacher, that, I

think, was his idea, so that even where schools might be supported at the public expense, this particular kindergarten work should be provided for by the family, and not by the State?—Yes.

24931. There is one other point, drawing. I believe that, up to this, drawing is not recognised by the National Education Board as a branch of school work before the third class?—It is not on the programme.

24932. But do you not think that it ought to be on the programme?—Oh, yes.

24933. You have said, I think, that every National school teacher in Ireland is qualified to teach drawing, at all events to teach what might be required up to the third class?—I should say up to about third.

24934. Now, when you say that, is it that you know, as a matter of fact, that there is no teacher at present teaching in a National school in Ireland who is not qualified to teach drawing?—Excuse me for putting the question; I know what you mean, but it is necessary to put this question to avoid misconception?—Do you mean, then, that, as a matter of fact, there is no teacher in our Irish National schools who is not able to teach this elementary drawing, or do you mean that no teacher is really fit to be in a primary school unless he is able to teach drawing?—I mean the latter; any teacher who is able to teach anything ought to be able to teach drawing.

24935. That is, if a person is fit to be a teacher, he ought to be able to teach this elementary drawing, and if he is not able to teach it he ought not to be left as a teacher in the school at all, that is your view?—That is my view.

24936. But of course you do not take it on yourself to say that everyone of the 12,000 National school teachers in Ireland is qualified to teach drawing?—Oh, no.

24937. Perhaps you can clear up for us a point that seems to be a good deal confused; can you give us the distinction between object lessons and elementary science?—Not clearly.

24938. Let me read this for you?—In last year's Code of the English Education Department, where provision is made for object lessons, an express instruction is given to the inspectors, in the official instructions issued to them, that object lessons are to be carefully distinguished from elementary science. Here are the words:—"It is important that, if, for example, object lessons are given on plant life, no attempt should be made to treat them as a continuous introduction to the study of botany, or, if the lessons relate to animal life, as an introduction to the study of zoology." Before I ask you any question about this passage, I should wish to say that when we were in England I examined one or more of the English school inspectors on the point, and they told me that they did not act on that letter of instruction. At Kendal I called the attention of a very eminent man, Mr. Clouston, to it, and he did not at all accept the view that object lessons should be distinguished from instruction in natural science. What he said was that the object lesson was "the first stage" in it, and again, "the first step towards systematic science." Are you inclined to agree with that view of the case?—I consider object lessons are the beginning of science work.

24939. Now, as to the work of the training colleges. From your position in the Marlborough-street Training College you have, of course, a good deal to do with the teachers and students who are in training?—Yes.

24940. I believe that the teaching of science in the training colleges has suffered heavily under the operation of the new programme of the National Education Board for the classification and promotion of teachers?—It has.

24941. The teaching of science has in fact been altogether extinguished in some of the training colleges, and perhaps in all?—The teaching of special subjects has been done away with.

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24942. How is that: the new programme recognises natural science just as it recognised any other subject?—The programme is too extensive.

24943. There are certain optional subjects allowed by the new programme—elementary science is one, trigonometry is another; now, what optional subject do your students in the Marlborough-street Training College take up?—Trigonometry.

24944. Do you think that is a wise choice, when the programme of the National Education Board makes provision for the students who take up elementary science, just as for those who take up trigonometry?—From the point of view of the pupils whom they have to teach afterwards, it certainly is not.

24945. The report of the National Education Board shows that trigonometry was taught in only two National schools in Ireland last year, and that the total number of pupils examined in it was two—apparently one from each school; how, then, can it be a subject of real utility for the Queen's Scholars to take up in the training college?—It is a good mental training for the Queen's Scholars.

24946. Do you think it is from that point of view that the students regard it when they may they will have trigonometry in preference to elementary science?—I am sure they regard it as the easier to learn, and as the one in which they will get higher marks at the examination.

24947. Do you not think that in the present system for the promotion of teachers that view enters largely into the calculation of Queen's Scholars in our training colleges, that instead of looking to the benefit they may derive there in learning how to teach things afterwards in their schools, they are looking rather to how they can most easily get the marks that will get them through at their final examination in the college?—I think the Queen's Scholars attend largely to the final examination.

24948. Don't you think that this is a result of the plan upon which the system of the training colleges,

and of their work, is at present constructed?—I do.

24949. Have you ever thought how that difficulty could be remedied?—If there were no final examination for classification it would do away with striving for marks in various subjects.

24950. It was suggested here yesterday, and some of us thought that there might be something in the suggestion, that the training colleges, as regards teaching, should confine themselves to what is really the proper all-round work of our National schools, and not spend time, as at present, in teaching those more or less out-of-the-way subjects, such as trigonometry, and the like. Don't you think that the teaching of these subjects is calculated to put before the students the idea that the college is a place for teaching them certain subjects, rather than a place for training them in the work of a National teacher?—It does keep that idea before the minds of the students, certainly.

24951. The dropping of the teaching of such subjects would have the effect of concentrating attention more on what seems to be the primary work of the training college?—It would.

24952. At present there is no time to do everything, and questions arise as to what is to be dropped?—In the new programme we have not very many optional subjects, the number has been restricted considerably.

24953. Suppose trigonometry was taken out, would not that be an improvement as far as it went?—It would.

24954. Do you think that natural science should be made compulsory?—Science ought to be made compulsory in the training colleges.

24955. You are aware that it was compulsory until recently, and the Commissioners of National Education were bombarded with criticisms for making a thing compulsory in Ireland that was not compulsory in England, the Board then gave way to some extent to that kind of criticism, and now we are bombarded with twofold vigour for having made the subject optional?—I think object lessons and elementary science lessons ought to be made compulsory.

Rev. J. M. HAMILTON, Presbyterian Minister, Dublin, examined.

Rev. J. M.
Hamilton.

24956. CHAIRMAN.—You are the manager of the Denora National School, Dublin?—Yes.

24957. And you came here in a representative capacity. I see by the memorandum that has been handed in that you are prepared to give no information upon the subject of cookery?—We have had some experience on that subject in our school. I may say that the children who are educated in the school—it is a female school, with boys up to eight or nine years of age—that the children are exclusively the children of clerks and of the higher class of mechanics, and, therefore, I felt that the best thing we could do in training them was to fit them for their homes in after-life, and that cookery would be, perhaps, about the best thing we could teach them as one of the extra subjects. We accordingly applied for and obtained the help of a lady from Kildare-street, who, I think, was sent by the Commissioners of Education. She gave them ten lessons, and there were ten demonstrations by the children afterwards—one lesson, and then a demonstration—and so on for several weeks; and I may say the parents were greatly pleased with the training the children received and value it very highly, and the children themselves were much interested in it. We are most anxious, if it were possible, to have another course—in fact, I would like to keep it up as a permanent department of the school.

24958. In addition to demonstration lessons, do the children have practising lessons?—Yes; demonstration is given by the teacher, and on the following day they practise. There were ten lessons and ten practices.

24959. Are the parents anxious that the subject should continue?—Most anxious.

24960. And do they wish to have laundry work added?—They wish also to have laundry work added. Most of these girls will be afterwards, I dare say, in charge of houses where an acquaintance with such subjects will be very necessary, and the parents would desire that the instruction they have already received should be extended.

24961. What sort of a stove do you use?—We have used a gas stove, but we found that was not nearly so suitable as a small cooking range would be, because, of course, the children have no experience of gas stoves in their own homes. It is very nice and clean, but by no means equal to what an ordinary cooking range would be.

24962. How many hours a day do you teach needlework?—One hour a day.

24963. You teach the usual programme of needlework?—Yes.

24964. Do you think that needlework is taught too many hours in the work?—Well, I think that if it were varied a little—of course they are at present darning and patching, and all those other matters—but I think that if we had dressmaking, for instance, introduced it would be a very great advantage to the children.

24965. You don't think parents would object, for instance, that dressmaking was a trade?—I don't think so.

24966. That, you are aware, has been the objection made in a good many parts of Ireland?—But I don't see why a girl should not be taught to cut out her own dresses; in fact it is part at present, I think, of the training of millresses in the schools.

24967. I know it is done very largely, but we have had evidence that the objection is often taken, per-

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ularly with regard to the industrial scheme, that the parents in Ireland say that if they want to make their children dressmakers they can send them to a dressmaker!—I would not teach it as an industry, but as part of the education given in the school. I don't think we should contemplate the turning out of dress-makers, but should aim at turning out girls who could, for instance, cut a skirt.

24968. Do you teach freehand drawing?—Freehand drawing in the upper classes only.

24969. You don't teach any mechanical drawing?—No.

24970. You have only girls?—Only girls.

24971. As regards the time table, you don't find any difficulty in bringing in cookery or laundry work, without any material alteration in the time-table?—No, not as far as those two subjects are concerned.

24972. You think that, even without shortening the hours for needlework, you have plenty of time for these subjects?—Of course, the girls who take the cooking don't have the needlework that day. The class in cookery is from two to four o'clock in the afternoon, and that deprives them of needlework for that day. My idea was that these five subjects I have named should be taken for two hours on separate days each, and possibly it would be for the fifth and sixth classes, that would be the most convenient method of arrangement.

24973. Do I understand your suggestion to be this, that on one day of the week cooking should be taught, and on one day of the week laundry work should be taught, and the time should be found by taking away the needlework hour that day and also taking an additional hour from the school hours?—That is my idea.

24974. Rev. Dr. Willest.—Have any parents objected to the time that is occupied with needlework?—No, I don't know that they have; I have never heard of any objection.

24975. Is the needlework as popular with the parents and children as cookery?—Of course cookery was a new subject, and, perhaps, they were a little new-fangled, but the girls—there were only sixteen girls—were greatly delighted with the cookery, and practised the dishes at home, and introduced a number of novelties into the family life of the neighbourhood.

24976. Have you all the requisites for cookery?—We bought some that we intend to have permanently, and anything else that was required was supplied from my house, but it would be necessary, I think, to have a regular set of cooking utensils.

24977. Have you done anything yet at laundry work?—Not yet. We were told that we could not get another course of cooking lessons. So far as laundry work is concerned there has been nothing done in the school.

24978. But you would be favourable to the system of a centre in Dublin to which a number of schools would be sent for laundry work and cookery work?—Well, it would be exceedingly difficult to send girls down to the city. My school is on the extreme end of the city. I don't know where you would get a centre. There is a very large population in the district. If you could have a centre near it it would be very convenient, but to send them any distance to a centre would be exceedingly difficult, because they are girls of from twelve to fifteen years of age.

24979. You would rather have a less efficient system of cookery and laundry attached to your own school?—Yes.

24980. Mr. Moller.—How were the materials provided for the cookery classes?—Mrs. Hamilton provided them regularly. Of course, if we had the subject constantly taught in the school the principal would likely take charge of them.

24981. What became of the materials cooked?—I believe they were sold to the children.

24982. And they bought them regularly?—Some they did not buy.

24983. Was the cookery instruction carried on

within school hours?—From two to four o'clock every Friday.

24984. That is the practice; when were the demonstration lessons given?—On the same day of the week at the same hours.

24985. Has an examination been held or any test applied since the course ended?—The inspector held an examination immediately on the close of the course, and I believe that all the children passed satisfactorily, with the exception of one, who only got 2, the others all got 1.

24986. With regard to the needlework, does your teacher, Miss Duke, carry on the alternative scheme for her highest class, sometimes called the industrial scheme?—No, I don't think so.

24987. One hour a day is devoted to needlework continuously throughout the classes, even up to the sixth?—Oh yes, she furnished me with some notes. In needlework "we introduce some stitches in Monstroullink and art needlework in crochet for a few months after the results examination, the remainder of the year the time is entirely devoted to the needlework programme."

24988. You contemplate introducing laundry-work?—Yes. It is quite possible that we may apply for an additional assistant, because our numbers have risen recently, and I suggested to the principal teacher that possibly she could do it; she says that all the time and all the assistance of the mistress will be required in the school during school hours.

24989. Your school has increased so very much that I believe you are desirous of enlarging it with a view to the introduction of these extra subjects, and providing additional accommodation for the pupils?—We have more children in attendance than our school was intended for; I think it is for 130, and we have had 124 in attendance.

24990. Is it a vested school?—A vested school.

24991. A vested school requiring enlargement by an additional classroom, for which doubtless you have applied?—I have not applied yet, I have asked that plans should be drawn up, and as soon as I get the plans I intend to apply.

24992. Monsignor Mooney.—I think you said you had got a teacher in cookery from the association in Kildare-street for the Training and Employment of Women?—Yes.

24993. Did you find her services satisfactory?—Essentially so, the children made great progress under her, and were very much interested in the lessons that she gave, and were very successful in reproducing them.

24994. How long did she remain with you?—She was twenty weeks, that is she gave ten lessons and ten practices.

24995. When that course was finished did the teaching of cookery come to an end?—Yes. We thought we would get another course, but we were told that we could not have another one.

24996. Would you not consider it desirable that the teaching should go on continuously?—We are most anxious the teaching should go on.

24997. And what is the impediment in the way?—I believe we were told from the office that the teachers in the school were the parties who should give the instruction.

24998. I believe there are only four such teachers employed by the National Board for all Ireland?—I cannot say.

24999. Mr. Moller.—Trained by that association. Cookery is taught in a great number of schools independently of the association, by persons who have obtained certificates?—I believe the teacher came to my school from Father Pricker's school in Rathmines, she went round a number of the schools.

30000. Monsignor Mooney.—At all events the difficulty was that the National Board could not provide you with a teacher any longer, and you think it desirable they should provide you with one?—Exceedingly desirable.

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Rev J M
Macdonald

25001. And should provide teachers in cookery for a great many other schools throughout the country as well?—Yes.

25002. Mr. REMINGTON.—Of course to do that would cost a great deal of money. And it strikes you that it would be better to instruct the ordinary teachers in cookery, so that they might give lessons continuously in their schools?—That would be a very desirable thing, but I was speaking to my principal, and she said if we got another assistant we should look out for a lady who could give instruction. But she said her time will be all required in the school during school hours.

25003. How are you able now to give two hours out of the day for this cookery instruction?—It was not in charge of one of the teachers of the school, but of this lady who came from Kildare street.

25004. But the teachers were able to afford to lose two hours during the week?—Only one hour, the class worked from two to four.

25005. CHAIRMAN.—Could you not arrange merely to drop a lesson for an hour?—That is what we did in this case.

25006. I mean drop a lesson as regards the teacher as well as regards the girls?—It might be arranged; I have not looked into it yet, for we have not got the assistant.

25007. A teacher could not be in two places at once, and if she was teaching cookery she must drop her ordinary work?—Yes.

25008. Mr. REMINGTON.—Have you any experience of county schools?—No, not any.

25009. You think the kind of cookery instruction given was practical?—Very practical.

25010. It was simple enough?—The children were not only interested in it, but practised it at home, and the parents told me how very much delighted they were with the results of the instruction.

25011. Would you make drawing compulsory for girls?—Yes. I think they should have a hand and eye training just as well as boys.

25012. Most Rev. Dr. WALSH.—Don't you think that boys should have some manual and practical instruction as well as girls?—I think they should, but I have nothing to do with boys.

25013. There is a certain amount of this kind of training at present for the girls, but unfortunately there is very little for boys?—None practically for boys.

25014. And you consider that there ought to be. Now I should wish to ask you a few questions about these three subjects that you have given special attention to, cookery, needlework, and laundrywork; they are all of great practical utility?—Yes.

25015. And they would be of very great utility even if they did nothing but lead up to the performance of the special kind of work with which each is concerned?—Yes.

25016. Do you consider that, over and above that, they have also an important educational advantage?—I believe so.

25017. Take cookery for instance; when this is properly taught, the child has, to a certain extent, to weigh things and measure things, and comes to learn in a very practical way the importance of doing this accurately; is not that so?—Yes, the children are taught to do that.

25018. Is it not a desirable thing to train up children in habits of accuracy in such ways as this?—It is.

25019. And to teach them how much better it is for them, instead of having an idea that one or two handfuls of a thing should be put in, to know exactly how many ounces should be put in, if it is a question of ounces?—Yes.

25020. And in the same way, instead of letting them grow up with the idea that an inch or two more or less in the length of a thing makes no very great difference, they should be taught the importance

of having the measurement of a thing, or the weight of a thing exactly, if it is to be measured or weighed at all?—It is most important.

25021. You consider that the teaching of these subjects has that important educational advantage, and that even if it had no other advantage, this alone would justify their introduction into our primary schools?—I think so.

25022. Therefore, to that extent, they form an important part of what may be termed general school work?—I think, in addition to that, the teaching of cookery with the use of the utensils may give them habits of neatness and cleanliness.

25023. And as you have mentioned it, the advantage of this is carried further than the mere school, it affects the home life?—Yes.

25024. So that for all these various reasons there is a decided educational utility in these various branches. That being so, should it not be the business of a department that charges itself with the staffing of the schools of Ireland to provide a suitable staff, to make suitable provision for the teaching of these subjects?—I think so.

25025. Does not the present system of National Education in Ireland seem to be constructed rather on the lines that these things are more or less in the nature of accessories upon school work?—It is.

25026. And the State, which in this country undertakes to provide teachers for our schools, will provide teachers for everything else, but will not provide special teachers for these subjects. You consider that the staffs should be so provided that there would be sufficient teaching power for these practical subjects as well as for the book subjects?—I believe so.

25027. You were anxious to go on with the teaching of cookery for a second course, but you had, I think you said, to give it up, because the officials of the National Education Board—that unfortunate Board that is blamed for everything that goes wrong—would not give you teachers?—That is so.

25028. You are evidently not aware that the National Education Board, so far from deserving any blame in this particular matter, on the contrary, deserves the greatest possible credit for what it has done in overcoming the difficulty that there was in getting the necessary funds to provide even one teacher of cookery in the country?—I am not acquainted with the secrets of the Board.

25029. I think it would be very unfortunate if such things were to be treated as secrets, you are aware, at all events, that the introduction of this cookery work is quite a novelty, brought in only in the last two or three years?—Quite so.

25030. In other words, it is only within the last two or three years that the National Education Board succeeded in moving the Treasury to sanction the appointment of four teachers as an experiment, having asked for the appointment of a much larger number. But you are evidently not aware that since then the Board has done everything in its power, but without effect, to get funds from the Treasury for the appointment of an additional number, even a small additional number, of cookery teachers?—I was not aware of it, but I would be prepared to support them.

25031. I always like to see the saddle put on the right horse in these matters. It is the Treasury that is to blame, not the National Education Board, for the scarcity of cookery teachers. I am sure you will be glad to know that the country has to thank the National Education Board for having cookery teachers at all?—I do feel thankful to them.

25032. You were asked some questions about centres. I should like to know what you think of a system which we saw working in several places in England; a centre, a central school, was provided where cookery, for instance, was taught, and to that centre the children came from a number of schools round about. Do you think that such a system

would work well in Ireland; first, would it not have this advantage, that the initial expense of setting up a cookery class, instead of being thrown on at present upon one school, such as yours on the Circular-road, is on the school of your neighbour, Canon Fricker, at Rathmines, would be spread over a number of schools?—I think it would be an advantage, of course there was a considerable expense in the case of my school, but the children contributed to it.

25033. There is, of course, an aspect of the case that we cannot shut our eyes to in this country. We wish to have—each religious denomination wishes to have—schools of its own. You would not wish the children of your congregation to go to Canon Fricker's school, nor would Canon Fricker or his Catholic parsons like the Catholic children to go to your school. But is there any reason why there might not be a centre that would supply everything required for the teaching of cookery in all the schools of a neigh-

bourhood; your children could go there, say, on Friday; it would not be a good day for Canon Fricker's young charges, but they could go on Thursday; and the children from some other school in the neighbourhood on Monday; and so on. Would not the establishment of such a centre facilitate the teaching of cookery and of all such work?—The only objection I would see to the centre is taking the scholars along the streets any great distance, the children that come to my school come from a very short distance around.

25034. That, no doubt, is a difficulty; but there are cases where it would not be seriously felt. Within a very short radius in and near Dublin there may be a number of schools for which such a system could be worked, but, at all events, apart from that question of distance, you think that the system would work well?—I think it would.

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Nov. 12, 1887.
Rev. J. M.
Bennetts

Rev. J. W. TRISTRAM, B.D., Organising Secretary, Diocesan Board of Education, Dublin, examined.

25035. CHAIRMAN. You are the Organising Secretary of the Diocesan Board of Education in Dublin?—I am, my lord.

25036. For the Irish Church. And you came here to give us evidence, partly as representing others, in this sense, that you have been requested to attend our Commission, and to submit the abstract that you have made of the replies of the Church managers of the diocese to the queries issued on behalf of the Diocesan Board by your committee?—That is so.

25037. And you are also prepared further to give us, in your capacity as secretary, some more information on your own responsibility?—On my own responsibility, the result of personal observation.

25038. Will you tell us how your Board is constituted?—Our Board at present is incorporated by an educational scheme drawn up by the late Educational Endowment Commissioners. We were originally constituted by the Synod of the United Diocese to attend to the religious education in the National schools, and to the religious and secular in non-National schools, and we were made up of representatives from the three dioceses, both clerical and lay. When the Educational Endowment Commissioners came into existence we approached them with a view of getting our body incorporated, and a scheme was drawn up for that purpose, the result being that we are now an incorporated body having power to hold educational property in trust for administration.

25039. I believe that your Board has taken pains to ascertain the opinion of school managers on the question that is under our consideration, and that a committee was formed with that view?—Yes; we formed a committee consisting partly of members of the Board, of educational experience, and partly of school managers, representing the leading managers of the united diocese, for the purpose of presenting to the other managers who did not belong to this committee a number of queries which affected the subject of manual training in schools. Our committee issued a query sheet with a large number of queries, which I filled in in detail, and we received a certain number of replies.

25040. How many?—We received ninety-four replies.

25041. How many circulars did you send out?—We sent out 116.

25042. How many pupils were on the rolls of the schools from which these replies were received?—6,380.

25043. What is the average attendance of these schools?—4,733.

25044. Can you give us the queries as they were put?—I can; the first query was "Is kindergarten instruction given in your infant schools?" The reply was—from thirteen schools, having 717 infant pupils,

"Yes." And from nine schools with 362 pupils, "No." Then the second query was "Is kindergarten instruction given in any other school, not infant?" And the reply was an unanymous "No." The third query—"Is drawing taught in your male school?" From fourteen schools with 742 pupils the answer was "Yes." From two schools with 89 pupils the answer was "No." The next query—"Is drawing taught in your female school?" The answer from fourteen schools with 634 pupils was "Yes," and from two schools with 103 pupils the answer was "No." The next query was—"Is drawing taught in your mixed school?" The answer from twenty-one schools with 776 pupils was "Yes." The answer from forty-one schools with 1,410 pupils was "No."

25045. Turning to the question of needlework, did you put any special question with regard to that subject, if so, will you tell us what it was?—We asked the question—"Are there any special steps taken to encourage proficiency in needlework?" We received replies from all the schools—that is all the female schools—eighteen of these schools answered "Yes," simply, twenty-six schools with 1,056 pupils answered that sewing was taught either by a paid workmistress or voluntary helpers. Thirteen schools with 609 pupils told us sewing was taught and prizes given. Twenty-three schools with 814 pupils answered "No," that there were "no special steps taken to encourage needlework."

25046. Did you send a similar question about classes in cookery?—We did, we asked "Have you any classes in cookery," and the answer from three schools with 144 pupils was "Yes." From forty-four schools with 2,901 pupils the answer was "No."

25047. Then with respect to laundry work?—"Have you any classes in laundry work?" eighty-two schools with 3,865 pupils said "No." Two schools with 68 pupils said "Yes."

25048. Agriculture?—Twelve schools with 804 pupils answered "Yes." Seventy-one schools with 3,816 pupils answered "No."

25049. Horticulture?—Four schools with 109 pupils, "Yes," ninety schools with 4,634 pupils, "No."

25050. Shoemaking?—Ten schools with 632 pupils answered "Yes," seventy-three schools with 3,168 pupils, "No."

25051. Typewriting?—One school with 139 pupils, "Yes," eighty-two schools with 3,819 pupils, "No."

25052. Other handicrafts?—The reply is rather complicated. Seventy-six schools with 3,578 pupils answered "No." Seven schools with 126 pupils answered "Yes," the description of handicraft varying with the different schools.

25053. Did you put any query with regard to appliances, and if so in what words?—We asked them whether they had premises or appliances which would be suitable for introducing such classes, that is the

Rev. J. W.
Tristram, B.D.

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classes in handicraft referred to, and the answer from twenty-two schools with 1,522 pupils was "Yes." The answer from twenty-three schools with 1,130 pupils varied, and the answer from thirty-eight schools with 1,319 was "No."

25054. What did they say about local resources available for such a purpose?—We asked them had they any local resources available? Nine schools with 567 pupils answered "Yes." Eighty-three schools with 4,024 pupils answered "No." Two schools with 302 pupils gave us no reply.

25055. What reply did you receive to your question about making drawing compulsory?—Thirty-eight schools with 2,507 pupils answered "Yes." Thirty-eight schools with 1,116 pupils answered "No." Six schools with 238 pupils sent no reply.

25056. Did you ask them whether they would be in favour of making needlework for girls essential for a pass at the Bessie examinations?—We did. Fifty with 2,744 pupils answered "Yes." Thirteen schools with 592 pupils answered "No."

25057. Did you ask them whether they would be in favour of modifying the present programme of the National Board, in compulsory subjects, to any extent?—We did.

25058. As regards making any subject optional?—We addressed them three or four queries, the first was as regards making any subject optional, six schools with 314 pupils answered "Yes," sixty-one schools with 2,649 pupils made no reply. A few of the managers said they had not sufficient data to form a correct judgment, and twenty-seven schools with 1,800 pupils gave varying replies with regard to particular subjects, nearly all referring to English grammar and geography.

25059. Did you ask whether they would make the programme optional in any school or schools in which it is now compulsory?—We did, five schools with 491 pupils answered "Yes," nine with 475 pupils said "Yes, grammar;" four with 459 pupils said "higher arithmetic," ten with 806 pupils answered "No." Sixty-six schools with 2,833 pupils sent no reply, the insufficient information of the managers preventing them from so doing.

25060. Did you suggest that a shorter time should be given to any subject in each week than is now given to it?—We did. Eleven schools with 963 pupils answered "Yes." Fifteen schools with 750 pupils answered you as to grammar. Three with 188 pupils answered you as to arithmetic. Nine with 489 pupils answered "Yes" as to geography. Six with 346 pupils said "No." Fifty schools with 1,849 pupils sent no reply.

25061. Did you put any questions to them with regard to introducing manual training, provided a substantial portion of the expense were borne by the State?—We did. Seventy-two schools with 3,516 pupils answered "Yes," six with 619 pupils answered "Yes, but only in the elementary form, not trades." Eleven with 459 pupils answered "No," and then there were various replies.

25062. What is your general opinion as to the advisability or possibility of introducing manual training into the schools inspected by you?—Before replying I wish to say that I have now arrived at the limit of my mandate with regard to the managers, my replies I give now being given on my own responsibility, and not as a representative. I have a very strong opinion that the first object of manual training into our schools would be both possible and desirable, always provided that two considerations were attended to, and the first one of these is that no attempt should be made to turn our schools into mere workshops by the teaching of trades, or technical instruction; and the second one is that we try to carry with us the co-operation of the teachers by commending it to them first, and introducing it mainly through their instrumentality.

25063. In speaking of manual training have you specially in your mind woodwork?—No. I refer rather

to hand- and eye training, kindergarten and the preparation of all the work which leads up to woodwork—manual training merely from an educational standpoint, which is the primary purpose for which the Sloyd system was introduced.

25064. Would you be in favour of having in the fourth class cardboard work; and in some schools not going beyond cardboard work where it was not easy to find appliances for woodwork?—Most decidedly, I am of opinion that in some very small schools you could not possibly or practically introduce woodwork.

25065. You would not introduce woodwork before the fifth standard?—Not before the fifth class.

25066. Would you be in favour of curtailing the literary work to get more time for such training as you have indicated?—I should. I think in our present school education bookish and literary work preponderate to too great an extent, and I should be strongly in favour of curtailing the literary work, and making a great many subjects optional, which are now compulsory, although at the same time I don't think it is absolutely necessary that for the introduction of manual training we should do so, because the experience in England is that although manual training has been introduced the literary work need not be greatly curtailed.

25067. Have you any ideas as to the best manner of procuring teachers for this work?—I have, I think it would be desirable that we should devote some of the time at present given to higher teaching in our training colleges to manual instruction. At present there are no fewer than seventeen compulsory subjects in our training colleges, and a great many of the subjects that are taught in our training colleges to students are very often taught rather for examinations than to teach afterwards. I think the teachers could be prepared in the training colleges by dropping those higher and more advanced literary subjects.

25068. How many subjects do you think could be dropped out of the curriculum?—That is a question for an expert, but I certainly think the teaching of advanced Euclid and trigonometry might be dropped with advantage. I never yet met with a school in which trigonometry or advanced Euclid was taught, in fact the teaching of them rests the teacher for doing elementary work.

25069. Have you any idea as to the means of starting practical and manual training in education?—I think we should get considerable grants from the Science and Art Department.

25070. Do you think that the Science and Art Department should revise their rules and be more liberal than they formerly were?—I am strongly of that opinion.

25071. You think that they made a move in the wrong direction?—Yes, my own experience of Science and Art classes in the country is that a great many subjects are taught and passed for proficiency in them which cannot be of any possible use to those students in after life, but which they read merely for the purpose of getting Science and Art grants. With regard to the teaching of commercial arithmetic, I think the Science and Art Department ought to make a speciality of this subject.

25072. Will you tell us what your ideas are with regard to procuring ways and means?—I think we should have grants from the Science and Art Department. At the present time I am not aware how far we could ask the Commissioners of National Education for additional grants, I am not sufficiently in the secret of their financial position, but I think we ought to get considerable grants for the teaching of practical and scientific subjects from some source. Afterwards I hope the County Councils in Ireland will be able to do something for us as they are now doing in England.

25073. Do you think it is likely that they will?—I don't think it is at all improbable if they have the money.

25074. How would you suggest that the subject of cookery should be encouraged?—I am afraid there is

a certain amount of danger in the teaching of cookery as some people understand it. We can override the teaching of cookery. I would be very much in favour of the teaching of elementary cookery, and such cookery as would be useful to girls afterwards in their homes, and particularly with regard to the cooking of penny dinners. I have been in schools in England where penny or twopenny dinners were cooked by the girls for the children, and in the school intervals the children eat those dinners. A system like that might be introduced with advantage in towns in Ireland. But the cookery should above all things be simple, and no elaborate dishes attempted.

25075. Have you ever heard of any cases where elaborate dishes have been attempted in school teaching?—I have not, but at the same time I know the tendency is to do so, if we are to take an analogy from the needlework, a great deal of the needlework taught in our schools at present being too elaborate and practically useless.

25076. Is there any analogy between the two subjects?—I think the same tendency that would lead teachers to teach elaborate needlework would lead them to teach elaborate cookery.

25077. Do you think that the teachers would be capable of teaching elaborate cookery with such instruction as they are likely to get in the Training Colleges?—If we began by having special teachers of cookery who would teach the teachers, I should make it necessary that they should only teach the teachers simple and not elaborate cookery.

25078. What is your experience as to the advantages of kindergarten?—I think it is most beneficial from an educational point of view.

25079. Would you advocate its continuance in the upper classes?—To the first, second, and third classes unquestionably, the higher forms of kindergarten and cardboard work. I think it has a very great educational influence.

25080. Would you be in favour of introducing cardboard work and wirework in the fourth class?—Yes, I think that is a defect in the English system—the fourth standard is neglected in this respect.

25081. Would you be in favour of making drawing compulsory?—Certainly, and particularly freehand, but with respect to geometrical drawing and perspective, I think there are a number of children who have no natural capacity in that direction, and it would be a loss of time to keep them at drawing for which they have no taste.

25082. You are in favour of making freehand drawing compulsory?—Yes.

25083. Are you in favour of teaching them scale drawing, to measure with a compass and ruler?—There is a certain amount of measuring in freehand drawing, but it is only elementary, in geometrical drawing there is also a certain amount of measuring, but I would not advance them in geometrical or perspective unless they showed some natural capacity; I am not an expert myself.

25084. Don't you draw a distinction between scale and perspective drawing; are they not different?—They are, of course.

25085. Scale drawing would be necessary if woodwork was introduced?—Yes, I think drawing could be taught through woodwork.

25086. But woodwork would be applying the knowledge of scale drawing?—Quite so.

25087. What changes would you consider necessary in school work generally, in order to facilitate the introduction of manual training?—To begin with, certainly a modification of the results system. I don't know exactly about the abolition of it, but there should be a very serious modification. In the next place the reduction of the minimum average attendance necessary for an assistant. I think that would be necessary so that you might give the assistant to schools with an average attendance, certainly of 60, if not 50, and that assistant might be an expert in some of the subjects of manual training.

25088. Have you thought at all of the steps necessary for providing teachers in manual instruction?—I have referred to these with regard to the training colleges. I think we might begin in the training colleges, and in the next place deal with the teachers already teaching by the establishment of classes in country centres which could be attended on Saturdays or holidays.

25089. Have you any suggestions to make as to the teaching of agriculture in rural schools?—I am very much afraid we will never be able to teach any thorough systems of agriculture in individual schools; we have not got the materials for doing so. We might teach elementary agriculture or elementary horticulture in individual schools, but I think we can only teach agriculture properly by the establishment of model farms, and these would be conducted more as continuation schools. We might give free educational grants to students to attend them. I have a strong opinion that it would be very much better to teach the principles of agriculture thoroughly to a few than to attempt to teach them indifferently to all, because one or two good farmers afford object lessons to a neighbourhood, and the tendency is for other farmers to live up to them.

25090. Would you be in favour of modifying the present list of extra subjects?—Of reducing them very materially; there is too great a tendency to make our National schools intermediate schools.

25091. Have you seen the present programme and the alternative programme with regard to needlework; and have you any ideas on that subject?—I think the old programme was rather too elementary, mistresses have told me they could prepare in three or four months for all the requirements of the National Board inspection. On the other hand the alternative programme seems to me to devote a disproportionate amount of time to elaborate needlework.

25092. Would you be in favour of giving results fees to uncertificated teachers in such a subject as drawing?—It is a very difficult question to answer, and I may be alone in thinking so, but really if results were paid in drawing in the school, I would be disposed to allow them whether the teacher had the necessary certificate or not.

25093. Rev. Dr. WILSON.—The number of schools who replied saying they had cookery and laundry is so small as to excite some surprise, can you account for there being so few schools?—I think the real reason is want of proper machinery and proper training on the part of the teachers; the introduction of cookery is a luxury, it is expensive.

25094. Apart from the opinions of managers and others, your own opinion from your wide experience is that you would prefer the introduction of manual training in a moderate degree?—In a moderate degree.

25095. For example, you would have cookery of a very simple nature?—Cookery of a very simple nature and practical, useful for their own homes.

25096. From your own experience do you think that the results fees tend to the general education of the children, or do they work injuriously to the general education?—I have a strong opinion that results fees have worked injuriously to the general education of the country. The outgoat is a very large one, but the balance of opinion among educational experts is that it has been injurious both to teachers and children.

25097. Mr. MORTON.—Dr. WILSON, you represent, do you not, the Diocesan Board of Education, and that consists of a great number of managers. I want to know over what area its operations extend?—The counties Dublin and Kildare, three-fourths of Wicklow, half Queen's county, and one-fourth of King's county.

25098. Then the greater part of your evidence really represents the views of the managers of the schools under the Diocesan Board in those localities?—The first part of it.

25099. Has there been any committee established of managers as an advising body, a *vis* to the National Board?—There has not.

Dublin.
Nov. 13, 1897.
Rev. J. W.
WILSON, D.D.

Dublin,
Nov. 15, 1887
Rev. J. W.
Trevelyan, &c.

25109. What would be your own view with regard to the establishment of an advising body of that kind?—Well, our Diocesan Board of Education is supposed to be the recognized Church machinery for that purpose, but it does not consist exclusively of school managers. It consists in part of laymen, none of whom, with one exception, is a school manager, and some of the clerical members are not school managers. I think the diocese has sufficient confidence in the Diocesan Board of Education to regard it as representing largely the views of managers, though not as exclusively as some would like.

25101. So substantially there is a managerial body?—Substantially there is; but I dare say a great many would desire the body you speak of.

25102. With regard to the training colleges, are you representing the views of the authorities, in any observations you make, of Kildare-place?—Not at all.

25103. But your own view is that manual training might be established in the training colleges?—Certainly.

25104. Some of the advanced subjects—higher arithmetic, trigonometry, and subjects of that kind—might be toned down, and the time so obtained devoted to instruction in manual work?—Quite so.

25105. With regard to the results system, you said the results fees—perhaps you meant something else—were injurious to primary education?—It was the results system I meant.

25106. As a matter of fact, there is a sum of about £250,000 distributed annually amongst the teachers in results fees. I presume that grant is not repudiated by anybody?—I dare say not, but you could distribute it on some other basis.

25107. You have had a great experience as inspector of schools. Would you be in favour, instead of the individual examination, of having pupils examined by classes, and all the pupils, so to say, on the rolls, at least all as far as possible, brought into attendance on the day of examination?—I should most decidedly. Class examination generally or by specimens taken haphazard.

25108. What is called the sample system?—Yes.

25109. You decidedly prefer that to the mere mechanical individual examination at present?—Very much.

25110. From your experience as inspector do you find that the school hours are extensive enough during the ordinary week days?—I would rather redistribute the time. I think ten and a-half hours would be short enough time to give to secular knowledge, independently of religious knowledge, instead of five hours as at present.

25111. That would not include the recreation time?—No.

25112. What is your view about utilizing Saturdays. At present unhappily Saturdays are not very much used in our schools?—I should like to carry the teachers with us in everything we do, and if I utilized Saturdays I think I should be inclined to give extra marks for it. I think it would be desirable that Saturdays should be utilized, at first, at all events, by the teachers going to centres to learn the principles of manual training.

25113. Such a subject as manual training could be carried on on Saturdays, and, perhaps, payments made in connection with it?—I think so.

25114. You referred to the alternative scheme. From your visiting so many schools in the country in connection with the Diocesan Board, may I ask, what is the view entertained about that scheme?—It is not looked upon as a particularly wise scheme by a great many teachers, particularly with respect to needlework.

25115. Of too advanced a character?—Quite so.

25116. All needlework might be dispensed with?—Yes; it is unimportant.

25117. But such important parts as plain work, mending and darning, and repairing garments,

making dresses for school children?—The view is favourable to those.

25118. Is it your experience that object lessons receive much attention throughout the schools?—Not very much.

25119. You would be in favour of the introduction of object lessons?—I should as part of the science teaching.

25120. You would not confine the extra instruction to be given to manual work alone. You would also have science classes?—Elementary science classes.

25121. Monsieur MOLLAY.—Can you give the Commission any general idea as to the size of your schools? I mean the number of pupils attending them?—I can. We publish a report, which I shall be happy to place the Commission in possession of. Our schools vary from schools with an average attendance in three departments of 350 down to an average attendance of eight.

25122. Is there any considerable number in which the average attendance is, say, under thirty?—A very large number; particularly in the country districts.

25123. Under your scheme your Board has power to establish what are called district schools is the amalgamation of endowments?—We have.

25124. Has that power been practically exercised?—Well, it has not been exercised, owing to the rather delicate nature of the machinery that the scheme specifies as necessary to set in motion. Before we allow any school for the purpose of amalgamation we must have the consent of the Synod, and the consent of the Synod is difficult to obtain, and we must also have the co-operation of the managers. We have not tried to close any schools.

25125. It would have been difficult to get the scheme through, unless these conditions were put in?—I should say so.

25126. Have you in any case amalgamated endowments for the purpose of establishing a district school of a more advanced character?—We have established a district school in Dublin of a more advanced character, but not by the amalgamation of schools. It is established in the old Ralph Macklin School in Moleworth street. We call it the Diocesan and Commercial School. The National School there has ceased to exist.

25127. The Ralph Macklin School was in existence before you got your scheme?—It was in existence before our scheme, as a National school.

25128. I meant to ask if your Board has established any district schools as centres for more advanced primary education?—Not any.

25129. Then you have not put into operation the provision for establishing scholarships?—We have not. But we have invited the parishes, with our co-operation, to establish free scholarships in the Diocesan School in Moleworth street, of which some of the parishes have taken advantage, and sent their better boys from the parochial schools to this school.

25130. And in that way the Ralph Macklin School serves as a sort of centre to which their best boys are drafted?—Yes.

25131. Should you think it desirable to carry out that plan on a larger scale?—Most desirable. I wish we had a similar school on the north side of Dublin, and also a similar school or two similar schools for girls.

25132. Most Rev. Dr. WALSH.—You said, Dr. Trevelyan, that you had authority to speak as a representative up to a certain point in your evidence?—Quite so.

25133. The rest of the evidence you gave on your own responsibility?—On my own responsibility entirely.

25134. But we may take it that you have had very large experience in connection with the primary

schools in this part of the country?—Yes, your Grace.

25135. That experience has extended over a wide range of territory, and over a considerable period of time?—It has, eighteen years.

25136. So that, although you have no formal authority from others to speak for them, you really stand in a representative capacity in reference to a great many schools, owing to your personal knowledge of the condition of these schools, from visiting them for the purpose of your special work in relation to them as diocesan inspectors?—Certainly.

25137. You said you considered that the introduction of the results system had done harm, I should like to know precisely what you meant to convey, is it this, that at present you think it would be an advantage if the results system, as we have it, was altogether done away with?—Not altogether done away with, but modified seriously.

25138. Or did you mean to convey this, which is a very different thing, that it was a mistake to have ever introduced the results system, and that the introduction of it, at the time that it was introduced, did harm instead of doing good to the schools, does your recollection of the schools go back to the time before the results system was in operation?—It does.

25139. Do you think the teaching in the schools is less effective now than it was at that early period?—I think the general average of teaching has improved, but I would not say that this improvement is due entirely to the operation of the results system.

25140. Not entirely, but you would recognise that it did its part?—It served its purpose and it had its due.

25141. Precisely, now taking your view of the present situation, you would not consider it a proper inference that we should condemn the introduction of the results system at the time it was introduced?—Hardly.

25142. Some people, because they find that system doing a certain amount of harm now, jump to the conclusion that it was a mistake to have introduced it?—I don't think the conclusion follows at all.

25143. It would be at all events a conceivable view, would it not, that the introduction of the results system was of enormous advantage to the schools of Ireland, that it lifted up the teaching from a very low level up to a fairly satisfactory one, but that it is now a question whether a better system ought not to be substituted for it?—Those are exactly my views.

25144. You would, I suppose, adopt this view also, that the payments to be made to a school by the public authority should to some extent depend upon the character of the teaching?—Oh, certainly.

25145. And to a large extent?—To a large extent.

25146. When you speak of abolishing the present form of the results system you don't at all contemplate a system of paying every teacher in the country a fixed salary, and continuing to pay him that whether his work be good, bad, or indifferent?—I should not think of it in for one moment. I think the inspection ought to deal more with the supervision of the teacher in the act of teaching, and observing the methods he adopts in the school.

25147. You are aware that for a time in England they had the system that we have now, but that by common consent it was given up?—Yes.

25148. And that there is no one who regrets the change?—No one now regrets the change.

25149. Do you not think that if the payment was to be made in the way you suggest, the payment should depend, not merely upon the teaching of the various subjects of the school programme, but also to some extent upon the general order and neatness, and what we may call the tone of the school?—Quite so, yes, your Grace.

25150. I put that same question to Sir Joshua Fitch in London, and he expressed himself strongly in favour of such a form of payment. I understood

you take the same view?—I always in my inspection of schools that are not in connection with the National Board, take into consideration the tone of the school as well as the discipline and order, and the time table and other matters that affect the management of the school in a general way.

25151. Unfortunately at present a school may be very backward in all these important respects and yet may get the very highest or almost the highest results fees, if only the children are able to answer a certain number of questions out of a book?—That is one of the worst blots of the present system.

25152. And on the other hand a school that is in every proper sense of the word a model school, and doing splendid work for the children educationally, civilising them, if one may say so, may not be able to earn very much money because it may not produce the same results in the form of getting cut-and-dry answering from the books?—Yes, these are vital defects.

25153. You told us about the answers you got to the different questions on the query sheet that you sent round. I notice in a number of instances a small number of schools able to answer "Yes," that is, that they had those particular branches of school work which you asked about; but it was always a minority?—Yes, a small minority.

25154. Can you form any idea as to whether it is the same set of schools that enter into the composition of these minorities in the various cases? Is it, I mean, that when one or two schools had cooking, one or two had drawing, one or two had something else, each of these schools had only one of these special subjects; or did you find that there were some schools that were able to give affirmative answers to a number of the queries?—The latter, they were able to give an affirmative answer to a number of queries. There are very few schools that take up one special subject. Nearly all such schools take up two or three special subjects, and most of them have kindergarten, and musical training in the elementary form. But I would wish to observe also that those schools which have taken up manual training and cookery and other subjects are at the same time the very best schools if looked at merely from the literary point of view.

25155. You may have seen the evidence we took in England, we found the opinion universal, and the Scotch evidence was possibly even more emphatic, that wherever manual and practical instruction was introduced, there was a marked improvement in the work of the school generally?—Certainly. I should expect this.

25156. In answering the questions on your query sheet, did the schools confine themselves to saying "Yes" or "No," or did they give reasons for their views?—A good many of them gave reasons, there were some of the queries that did not require reasons; I should say one-third gave reasons.

25157. You say that a number of the schools objected to having drawing made a compulsory subject, were there any reasons given for objecting to it?—No reasons, except in about four or five instances, one school manager, who has perhaps the largest if not the best school, who has certainly, I should say, one of the three best schools in the United Kingdom, expressed himself very strongly in favour of compulsory freehand drawing.

25158. I meant to ask rather about those who gave the negative answers?—They gave only the answer "No," with one or two exceptions.

25159. Can you say whether these were schools in which drawing is at present taught?—I could not, your Grace.

25160. Do you think it likely that any manager who has drawing actually taught in his school would say that it should not be made a compulsory subject?—Most unlikely.

25161. Do you think it is clearly understood amongst the managers of your schools, because I don't

Dublin.
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Rev. J. W.
Trotter, Esq.

Dublin,
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 Rev. J. W.
 Twiss, D.D.

think it is at all generally understood, that when we speak of drawing, what we have in view is not artistic work, but drawing of a totally different character, suited to elementary schools!—Well, I should say most of our managers have a clear perception as to what is meant.

25163. If a manager thought it was artistic drawing that was in question, he would naturally say so!—Certainly, as unnecessary and wasteful of time.

25163. About manual instruction, some of your managers said they were in favour of the introduction of it, but not to any such extent that it would introduce the teaching of trades; do you think there is any general idea amongst your friends that when manual instruction as woodwork is talked of, there is any reference to the teaching of trades?—I do think there is such an idea, because it was at first not known as manual instruction. It was known as technical instruction, and the expression technical instruction leads to a great deal of misunderstanding.

25164. You know that in connection with this Commission we have from the beginning done everything possible to keep those two ideas perfectly distinct!—So I saw by the evidence.

25165. The word "technical" does not occur in the warrant of our Commission: by technical instruction, in the sense in which you very properly object to its being brought into a primary school, you probably mean instruction directed to the work of a particular trade!—Yes.

25166. By manual and practical instruction you mean that kind of training of the hand and eye, and of the faculties generally, which would be of use to a person in after-life, no matter what particular trade he may go to, or even if he does not go to any trade at all: for instance, you would probably think it might be of use to clerghymen, or doctors, or lawyers!—Quite so, as strengthening mental training.

25167. And it does this, in addition to giving people habits of neatness, of order, and of economy, which are useful in every walk of life, and are unfortunately now sadly needed in most walks of life in this country!—Yes.

25168. You know something of the work of the training colleges!—I do, a great deal.

25169. Have you formed any idea as to whether our training college work is going on right lines?—I am not, of course, speaking specially of the training colleges of your church, the college in Kildare-place, but of the general system: do you think that the system as it is worked out in the training colleges, of which the Kildare-place college is one, is likely to get before the minds of the Queen's Scholars under training, that they have come up to the college to be taught a certain number of subjects rather than that they come there to be shown how to teach the children in their schools?—I think I expressed that in my reply to the Chairman; I said that unfortunately the training colleges were at present places rather for preparing for an examination than for preparing for teaching, and they are looked upon to a certain extent as a modified university.

25170. You would be anxious to see that system totally changed?—Entirely changed.

25171. I may tell you that one of Her Majesty's Inspectors of Schools in Scotland said to me when we were there last month: "If through the machinery of this Commission you can get that reform carried out"—I had expressed to him my view that the whole thing is wrong, and my hope that this Commission, if it took that view, might be the means of having the system set right.—"The Commission will have the credit of effecting one of the greatest reforms that could be effected for education in the United Kingdom"; he mentioned, too, that for years some of the inspectors both of the English and of the Scotch Departments had been pressing that view upon the educational authorities, but could not get them to adopt it: now you are quite decided that this system, giving such prominence to the mere teaching of so

many subjects, is all wrong!—Oh, yes, seventeen con- gularly subjects are too many.

25172. You mentioned that agriculture was taught in a number of your schools; you are probably aware that under the rules of the National Board, agriculture, or what is called agriculture, is compulsory in rural schools!—Agriculture from books.

25173. There is no reason to think that it has been taken up in schools where they were free to take it up or not?—I am very much afraid in a great many cases it was taken up for the results fees.

25174. This subject may be taught in town schools?—Yes, just as well as in the country schools, according to the present system.

25175. And, being what it is, it can be taught perhaps almost as usefully here, in the middle of the city of Dublin as in the country!—Quite so.

25176. Now, as to handicraft, I know that your training college in Kildare-place is one of the few places in Ireland where the subject known as handicraft is taught!—Yes.

25177. Have you observed any tendency on the part of the teachers who were trained in that college to introduce this subject often winds into their schools?—In two or three instances only; I have in the united dioceses perhaps about sixty teachers who were trained in Kildare-place, and out of those sixty teachers I have not observed, on the part of certainly more than half a dozen, any attempt to teach it.

25178. Have you looked into the merits of the handicraft course as formulated in the existing programme?—I have thought a little on the subject and read a good deal.

25179. You know something of the Sloyd system?—I know its leading principles.

25180. Comparing the National Education Board's present system of handicraft with Sloyd, which do you think represents the proper system to introduce into schools?—Unquestionably Sloyd from its educational effect.

25181. You agree the present handicraft course of the Board is not really educational?—It is not.

25182. Don't you think, moreover, that it is calculated to set the public mind astray about all this question of woodwork in schools, and that it has, in fact, done a great deal of mischief in this way?—Yes, it has created a great deal of prejudice in the minds of parents and others which it will take years to eradicate.

25183. It is not wanting in almost all the elements of an educational course of woodwork, it does not go side by side with drawing?—No.

25184. They made a mistake, I believe, as to that requirement even in Sweden, but they are getting clear of it now; but even apart from that, apart from the absence of all connection with drawing, the system of woodwork, the system that we now have, is not an educational system!—No, there is nothing that leads up to it, and it does not lead on to anything else; it is not taught on a practical principle.

25185. You said, I think, that you stood alone in recommending that a fee should be paid for drawing, even though the teacher had not a certificate?—I thought it might be so.

25186. When you see all our published evidence, you will find pretty plain proof that you are very far from being alone in that view!—I am glad to know it.

25187. Mr. Mottet—Could you give me any idea of how many untrained teachers are teaching under your Board?—Not more than twenty.

25188. And those now in office were chiefly trained at Kildare-place?—If you take 200 as the figure, you get about sixty trained at Kildare-place, fifty at Marlborough-street, twenty under the old Church Education Society, before Kildare-place was a Government institution, and the remainder at small training colleges throughout the country or untrained.

25189. Is there anything to prevent those trained under the old Church Education Society coming up now to Kildare-place?—There is not; in fact some come up every year.

Dublin.

Nov. 11, 1897.

Rev. Gilbert Mahaffy, A.M.

Rev. GILBERT MAHAFFY, A.M., Rector of St. Peter's, Dublin, examined.

25190 CHAIRMAN.—What, in your opinion, is the chief difficulty in the way of extending manual instruction and training in connection with the National system of education?—I think it would be the unpreparedness of the present teachers, and of course they are naturally reluctant to take up fresh subjects, if they could avoid it.

25191. You think, I believe, that whilst the feeling and interest of the teachers must not be allowed to stand in the way of necessary improvements, it will be desirable to make some of the changes gradually, in order to introduce manual instruction and matters of that sort. In what way do you think that could be done? what concession should be made to the teachers?—I think it ought to be made as easy for the present teachers as possible, and I think we ought to go as far as possible to meet them. They ought to get facilities for acquiring certificates in special subjects.

25192. In what way?—That is a matter of detail on which I could hardly give an opinion, whether by local classes under special teachers. I think they ought to be allowed to attend short courses of instruction. I am aware that already, under the Science and Art Department, teachers were allowed to go to London for a short time, and their expenses were paid. If I mistake not, to get a short course in the laboratory there, and it seemed to me a similar course might be adopted if any special subject was to be worked up; they might in the Easter holidays or Midsummer holidays get a short course of training in Dublin or Belfast or Cork.

25193. Where in Dublin could the means be found of giving them such instruction as you have in your mind?—I suppose the College of Science would do.

25194. It would do for certain things, but not for the training in woodwork?—We have technical schools here which might be available, and if the thing is worth doing it is worth the while of the State to expend what is needful to get it done, but the technical schools here, which are not aimed of quite to the extent they might be, are very efficient in that respect. I was thinking partly of teachers, for instance, who had not had kindergarten training and who might get, not at their own expense if necessary, a grounding in kindergarten, and so those who had never learned drawing efficiently enough to teach it might get further instruction in drawing; that would facilitate its introduction into some schools where the teachers at present are not quite ready to do it.

25195. Have you any suggestions to offer with regard to payment to teachers for these special subjects?—Well, I suppose you don't want to increase the proportion that depends upon results examinations. I see that has been suggested in some portions of the evidence. It was suggested that result fees should be increased; but I think no large proportion of the teachers' salary ought to depend on result fees at present. If you give them more subjects to teach I think you will have to give them assistance for a smaller average. That is one difficulty that will meet you at once. The average of seventy with a variety of classes in a school at present is very hard work for a teacher, and if you introduce kindergarten to the extent that I think it ought to be introduced you will probably find it necessary to allow an assistant at an early stage.

25196. That is more a matter for the Treasury than the National Board, I understand. Do you think that anything could be done in the way of finding time, by dismissing the junior classes while the higher classes are getting instruction in either manual or scientific work?—That might be done, but I don't think you could well shorten the hours for any except infants. I don't know that they are too long for the stages above that.

25197. Supposing the shortening consisted of only

one or two hours in the week?—I think that would be no very serious loss. It is not just the amount of time that children spend in school that tells.

25198. The amount of time that is suggested should be given to manual instruction, or an point of fact that is given to manual instruction, where it is practised, I don't think as a rule exceeds two hours a week; therefore that is all that for that one subject would require to be gained; and it is at the same time suggested it could be gained by only taking one hour of the ordinary work and giving one additional hour, which I suppose the teacher would expect to be paid for in addition to the ordinary school work?—I think that would be very reasonable.

25199. Now with regard to drawing, are you in favour of making drawing a compulsory subject?—I consider drawing ought to be so necessary a subject in every school as writing, not merely for the thing taught but for its effects upon the whole work of the school and the whole habits of the child. I believe there is no part of the school work that would not be better done where drawing is efficiently taught.

25200. Are you in favour of making some portion of the kindergarten system compulsory in all schools attended by infants?—Certainly; as present kindergarten is only taught in a small proportion of the schools; for instance in mixed schools, which are very numerous, and girls' schools with a substantial minority of infants, no kindergarten is taught there, and it would make the life of children and the school much brighter. Little ones have often to drag through the weary hours with the older ones, with nothing of the variety that makes the infant school so attractive. My own observation is that it is much easier now to secure a better attendance in infant schools since the kindergarten was introduced. I believe the children love the schoolwork, it is so much brighter and more attractive.

25201. It sharpened the intelligence of—the children as regards literary work?—I think it does. I believe all the work afterwards will be more intelligently done.

25202. Do you think that kindergarten work should be continued in the second and third classes in the ordinary boys' and girls' schools?—Where children come to school at an early age, as they do with us, they reach second and third class quite early. Some of them reach the third class in their eighth year, and at that age it would be a great brightening to their lives; besides at present such a subject as drawing is stopped off when they pass from kindergarten and before they come to drawing in the older school.

25203. There is a gap?—There is a gap there. I suppose the teachers would make a little difficulty. Some of the boys' school teachers would hardly like to have to learn kindergarten, but I believe it would be good for themselves and for the whole work of the school.

25204. I see by your memorandum that you differ in opinion as regards needlework from a great many of the witnesses examined before us, inasmuch as you think that while in the present schools the standard is enough, in other schools you would increase it?—Yes; I suppose there may be a difficulty in getting the present standard reached in some weak schools and especially mixed schools; but I am perfectly satisfied that it is not nearly as much as might be done with the time prescribed.

25205. Do you mean the amount or quality of the work?—I mean the standard reached. I don't mean merely the amount; they could not possibly spend a year on the quantity prescribed, but the standard reached is not nearly as high as might be obtained.

25206. Do you think that the hours could be shortened with advantage?—I don't think so. I think the low standard has lowered the ideal of both teachers

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and children as to what ought to be accomplished in the matter of needlework, and just because they have so little to do they do that little grudgingly. I believe in some cases the time is cribbed from the sewing for other subjects.

25207. The result of the evidence we have taken in England and Scotland is that they already give less time to needlework there than you do here, and yet they consider it to be enough; three hours a week is the English standard. I certainly would not like to exchange that for six half hours. I think few of our girls learn to sew well enough to take an interest in it. It seems to me as if they were dragged up to a certain point rather reluctantly on the part of the teacher and pupil, and they don't turn back to it with pleasure afterwards; few of them are fit to earn their living by the needle or go on to advanced needlework. I have heard it stated on the authority of a good teacher that in about two months' time in a good school the present standard could be reached—the present standard in about two months' work in the year. It is hard to get up enthusiasm for needlework in any quarter. I noticed someone here mentioned that the parents won't provide the material for needlework. I found that differently, but it seemed to me that if the children had learned to do the needlework well, and the parents were not afraid of the material being sacrificed, they might be more ready to supply it.

25208. Don't you think the real reason is the school parents are rather ashamed of sending dilapidated materials to the school for people to see?—I am referring to new material.

25209. I think that the answer you are referring to is about articles that are sent to be darned. In Ireland that was the great objection; but I think in Scotland there did not appear to be that difficulty. You certainly would not get that here; but I am speaking of new material, all sorts of devices had to be resorted to. In one school the children were given as a bribe the garment when it was finished, to coax them to learn to sew. My answer was that they must learn to sew, come what may, and I certainly would not bribe them to do it.

25210. I believe that you think there should be a second optional standard in needlework, for which further results fees should be paid?—I do, I don't know what would be the best way to carry that out—either to have two standards, one applicable to poor and weak schools, which, in the judgment of the inspector, might be let off with a lower standard, and others more advanced; or else divide it into two portions, the second one having a special results fee attached to it as an encouragement to go on to higher needlework. In many cases it would be desirable to introduce a skilled needleworker into the school. Some teachers, when mistresses themselves, did not get a fair chance to learn needlework well, and can barely teach it, and I think if we could introduce trained teachers in needlework it would stimulate them in that direction, giving them an additional fee for some advanced type of needlework.

25211. You are in favour of introducing an advanced type of needlework into the schools?—Certainly; I think it is the most obvious form of manual instruction to introduce. I am afraid what has been reached hitherto has been very low in ordinary town schools. I would strongly urge the appointment of lady inspectors of needlework. I think one of the weak points at present is this: on the day of the examination, often towards the end of the day, there comes in this examination in needlework, and everybody is over-tired and tired; the inspectors are straining their remaining energies to criticize the needlework, and I don't think that is very satisfactory. I would be strongly inclined to separate it entirely from the results examination, and have a separate, distinct day and time of the year for the results inspection of needlework, when they would have their thoughts concentrated on the subject.

25212. Would you pay them accordingly?—I would make that part of the results system, but I would have lady inspectors and have a distinct day.

25213. Where would you obtain the ladies from?—That is a question for the Board, and not for me.

25214. Can you not suggest, could you get volunteers?—I don't see why they should do voluntary work for the State in such an important matter.

25215. Your idea is that you should have lady inspectors, who should only take needlework, to be in the same position as the ordinary inspectors, going about the country, having each a district?—Certainly.

25216. Saluted officers?—Certainly. I see no reason against that, but everything for it.

25217. I think that you have formed some opinion on the subject of sending specialist lecturers to schools; you have seen it in England?—I am not at all familiar with the work of English schools; I have visited a few, but not much, but I believe it would be a desirable thing to do, and even if the amount of information conveyed might not be very great, still it would open the minds of the children in certain directions.

25218. I don't think that we have had that suggestion made to us by anybody—in that form, at all events; would you have the lecturer lecture on one subject only?—One subject—for instance, "health," the lecturer to give a course of three to six lectures in the school. I believe it would be most profitable, on "hygiene" and "housekeeping," for instance. It would wake up the intelligence of the children on matters of common life; and for the boys an occasional short course of lectures on mechanics would open their minds very much.

25219. Would you prefer that to having the teachers trained to give instruction in those sort of things themselves?—Yes; but it is very hard to go back on the past where your teachers are out of training. I certainly would do it in training colleges.

25220. It has been suggested that classes should be established on Saturdays, or on suitable afternoons, where teachers should get instruction in classes?—That is practically my suggestion already.

25221. You think that this system of specialist lecturers is something quite apart from that?—I do; it is for the children rather than for the teachers, short illustrated lectures, it would give increased lightness to school life. I am sure that many children have had their thoughts awakened on some practical subject by one lecture they heard, which set them thinking, and helped them in all their life.

25222. What suggestion can you offer as to an alteration of the system with regard to payment, in a different way than by a system of results fees and individual examination?—I believe it would be a great mistake to abolish altogether the payment by results. I have been working in schools both before and since the results system was adopted, and I am fully persuaded that, with all its defects, the results system has greatly improved the type of education in the country. Of course it does press a little hard sometimes, where, for instance, the boy who is physically and intellectually weak has to be brought up to a certain standard—I am afraid it means a little high pressure. And of course it means high pressure with dilatory teachers who take it easy at the beginning of the year. But where the work has been done honestly all the year round it has not pressed unduly.

25223. Some people think that the results system has had the effect of making teachers devote themselves more to the stupid children, in order to enable them to earn more money by bringing them on, on the other hand, some people appear to have just the contrary opinion, and to think that a system of payment by results on individual examination tends to tempt the teacher to devote himself more to the bright children?—I think the temptation lies in both directions; on the one hand I think there has been a temptation to introduce extra branches in order to

gives the extra results fees, and in that case the ordinary course would be neglected.

25234. And the teacher would devote himself to the bright children?—Yes, giving them extra classes; and, of course, parents are a little jealous because other children are getting more time than them. And, on the other hand, there would be a little bit of a tendency with a conscientious teacher that the quieter ones would be kept back towards the end of the school; that would be the danger into which a conscientious teacher would fall in the desire to do the best for all of them.

25235. You think that in Ireland that the small demand for skilled labour in many parts of the country, and the tendency to despise toil of the hands, are difficulties which have to be met?—Yes; for instance, here in Dublin it is hard to get the children to see the value of skilled training of any sort, for they don't know to what they may go—the trades are mostly overstocked. We clergy feel that when it comes to the time to send them away from school, it is very hard to get employment for them. For instance, many parents don't see the value of drawing for their children—they don't see in what direction it can help them. I can imagine, in a manufacturing centre like Belfast, they may readily see the value of it, but in country places it will be harder to get them to see the value of this manual training. On the other hand, there is in parts of the country a tendency to despise trades—parents want to make their boys clerks and shopmen, and don't think it worth their while to put them to trades. That, I think, will make a difficulty for another class. The needs of the different parts of the country will have to be kept in mind in any system you introduce.

25236. Rev. Dr. WINNIE.—On the question of the hour at which you dismiss the infants and members of the junior classes, would you not think it better to have the hours of the school very much reduced. Is it not too long for a little child to be in school from ten to three?—It may be for infants; but if you reduce the hours for infants while retaining them for other classes, you are at once met with the difficulty that the little ones have to remain for the elder ones.

25237. It is surely bad for the health of the children to be so long confined, and, as they are there doing almost nothing, they are only creating noise in the school, and interfering with the senior classes?—That is, in the absence of kindergarten teaching, but not where the infant school is worked brightly, as it can be. You are thinking more of retired schools.

25238. I am thinking of the ordinary National school?—I think the kindergarten obviates weariness and injury to health. To begin with little children, you let them out to play two or three times a day, and I would say in the city here they are a great deal better in a bright wholesome schoolroom than in the yards or on the stairs of tenement houses.

25239. As to the point of appointing inspectors of needlework, I quite agree with you that a lady is the proper person to inspect that, and also think you ought to have an expert to teach it. But to guard against the danger of having that needlework of too high a class, would you not confine it to plain needlework?—I don't see why they should, if they learn to do advanced needlework well, they are pretty sure to do plain needlework well, and many of our people could earn by advanced needlework if they only knew how to do it.

25240. CHAMBERLAIN.—I think somebody told us the other day that children who could do advanced needlework well could not earn well?—I am surprised at that. I have found recently that although the sewing machine has displaced the ordinary handwork, still in more advanced types of needlework there is a great deal of money to be earned if our people are only prepared for doing it.

25241. Rev. Dr. WINNIE.—As to the question of appointing lady inspectors, that would be a measure for the Treasury, and would largely go to duplicate

the expense of inspection, which I don't believe the Treasury will accede to. But suppose this Commission is empowered to introduce a system more extensively, of cookery and of laundry, the ladies are the proper inspectors for all of these?—Yes.

25242. This might be a point in connection with the manual instruction, and the expense supplied from the funds provided for it?—Hear, hear. The State ought not to grudge the money for these things, for it will enable people to earn more and make their home life brighter.

25243. Mr. MOLLOY.—You spoke about a short course of training, do you mean a short course in connection with existing training colleges or carried on independently in the present colleges?—I don't know that the present training colleges would be exactly in a position to give what you want. You are aware of what I mentioned about South Kensington, the teachers being brought over for a fortnight or a month's course.

25244. Yes, but did you contemplate the idea of having places separate from the existing colleges to which the teachers might come for their course of instruction?—If necessary it could be in the training colleges, but I think the State should bear the expense of giving a short course.

25245. If there were evening lectures and experiments carried on in the College of Science, as there were formerly, would not such an arrangement as that serve all the teachers connected with the city of Dublin?—I am aware that when these lectures went on formerly they were largely attended by teachers, I was present myself at some of them, and saw a number of teachers present. There were popular lectures on scientific subjects, some admirable lectures on Sound by Professor Barrett.

25246. Unfortunately, these evening lectures were abandoned. Similarly could not the Art School, in connection with the Royal Dublin Society, be largely utilised for the instruction of our teachers during the evenings?—I am sure they could. I think if you were to request the heads of that School to arrange a short course of lectures that would be suited to teach these primary teachers the simple elementary mode of teaching people on the best system, I am sure you would be kindly met by the heads of this School.

25247. The third school you indicated was the Technical School, but I am afraid they go in in Kevin-street largely for teaching trades?—They teach geometrical drawing. These Schools are all in connection with the Science and Art Department, and also in connection with the City and Guilds of London Institute, and some of our schoolmistresses attend there to learn cookery and needlework.

25248. So you have indicated four sources in Dublin that could be utilized?—Without really increasing the cost, if arrangements were made during the holiday time for a daily lecture for a week for a number of teachers, and an examination held, and special facilities offered to acquiring certificates, I am sure many of them would avail themselves of the opportunity.

25249. Perhaps you are not aware that the National Board recognises a certificate earned on proficiency in mechanical drawing in Kevin-street?—I was not aware of that; could that principle not be extended?

25250. You advocate the propriety of having kindergarten throughout the ordinary schools?—Yes.

25251. And not confined to the junior pupils, but some suitable forms of it adapted to the higher classes also?—Yes.

25252. How do you meet the difficulty of so many schools being under masters?—I don't see why a master should scorn to learn kindergarten. Everywhere infants are found, their school life should be brightened by kindergarten. Your present kindergarten is only an adaptation of portions of the kindergarten system, and this would be the selection of a portion applicable to all schools.

25253. And in view of the fact that 30 per cent. of the children on the National School rolls are

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in the infant schools, and the teachers of a large portion of that percentage may be said to be masters, do you not think that in the training colleges they ought to extend the instruction in kindergarten to the masters as well as the mistresses?—I believe it would be a training that would be most valuable.

25244. And kindergarten drawing would lead up to other kinds of drawing more advanced in the senior classes?—Yes. With regard to that question I hardly know why the Board do not go more in the direction of providing assistants, and a little less in the direction of mistresses. I imagine that without serious increase of expense, assistants might in many cases be substituted for mistresses with great advantage; there is a rather over-production of mistresses; there is an excessive eagerness among our girls to become teachers, numbers of them never can be, and you will have to kill them off by examinations. You should have a larger number of assistants and fewer mistresses.

25245. Perhaps you are not aware that the National Board for some years have put that view forward to the Treasury and refused it over and over again without much success?—The Treasury seems to hinder every improvement.

25246. You remark that drawing is as necessary as writing?—I do.

25247. Consequently you would have it taught in every National School throughout the country, and with regard to the teachers in charge of schools, who are not qualified, what steps would you take?—You would have to deal gently with them; I dare say many at them have a sort of knowledge of drawing, and perhaps some of them have not got encouragement to do it. But if it were made compulsory, and they got that short course in the art of teaching drawing, it would come easier.

25248. You advocate in the case of needlework two standards, have you looked into the requirements of the present programme?—Yes, I read them over.

25249. Have you also looked at the alternative scheme for sickle class girls?—I have not, that means two hours a day, that is too long a course, I always thought that was quite an excessive time to be given to the subject.

25250. You reject the alternative scheme, which is really a higher standard, on the ground of excess of time?—Yes, and I hold a higher standard can be reached if your present time is properly utilized. You must have teachers who know how to teach needlework; there is much more pains taken now to see that the teachers know how to teach needlework, but formerly it was not so. I think the mistresses ought to be in advance of the other pupils.

25251. Of course you are aware now that needlework is an essential qualification for recognition as the end of the monitorial course?—Yes, I knew it is.

25252. And in that way a vast improvement has been brought about?—That is a great improvement.

25253. The Chairman asked you how many hours for needlework you would have; did you say five hours was too much?—It is not too much really, according to the importance of the subject, but I think that in three hours, not divided into half hours, you could accomplish your present programme without any difficulty; but the half hour is too short a time, especially in a subject like needlework, where there is a great deal of preparation at the beginning, and a great deal of gathering up at the close.

25254. Do you not think it could be more effectively taught in classes, not individually. There is a system called drill needlework, by which one teacher can instruct a large number of pupils at once?—It seems very ingenious, but I am afraid you would have a great uneasiness in the children's capacity. If you take a given class of children you will find they are very uneven in their capacity for needlework, and is it not unfair to keep a child that happens to have a

genius for needlework back to the level of the child who can hardly thread a needle.

25255. But the requirements of the highest class where one hour a day only is given to needlework are "to be able to cut out a man's shirt, and any article of female apparel, and to exhibit satisfactory proficiency in the different branches of plain sewing and knitting." Is not that a very high standard?—You might add something else to it in the way of special branches. I think if you want them really to do those things well they ought to have to learn to do something else beyond that.

25256. Something else beyond that the National Board thought might be met by the special industrial programme, such as bookmaking, Monastashik work, and art needlework. That branch, however, has turned out not to be so successful; it has been practically abandoned, and under the alternative scheme dressmaking came in and under-clothing, knitting, and general repairing of garments, you would class that portion of it, would you not, in the higher standard of needlework—the general repairing of garments?—I suppose that ought to be included in the ordinary course.

25257. Dr. Wilson has already referred to this point, that if cookery and bandy and needlework were more extensively carried out, that might lead to the appointment of ladies to supervise those branches?—I think that would be desirable; the inspection should not take place at results examination; there should be an interval of time between the two.

25258. In the case of cookery at present under the four teachers who have been trained by the Association in Kilburn-street, the examination is held at the end of the two months course; you would suggest something like that in the case of needlework?—I would.

25259. Would you also suggest that the needlework should be regularly carried on by the teacher of the school?—Yes, I would not at all release the ordinary teacher from her full responsibility.

25260. Perhaps you are not aware that under the existing requirements the infants may be dismissed prior to the termination of the ordinary school time?—I know that, but for the reason mentioned we do not do that. But where I have established an infant school recently apart from the others I have made the time a little earlier. What is the shortest time?

25261. It is not absolutely defined?—I know you are allowed to count the playtime.

25262. Most Rev. Dr. WALKER.—You can count the playtime in the four hours for all the children?—It seems hardly wise to count it in the case of the older ones.

25263. Mr. MOLLER.—Some educationists call the playground the uncovered schoolroom. Pending the appointment of these lady inspectors, would you think it advisable to extend what the Commissioners have at present, organizing teachers of schools: we have two lady organizers who go round the schools and give instruction to the teachers?—I doubt if very much will come of that. In the first place the teachers don't always welcome the aid of those who come in to propose changes. I would send the inspector in with the Board's warrant to examine and report on the work; that is quite a different thing, but where you expect a teacher to adopt methods suggested by a visitor I doubt the success of the plan.

25264. Your idea up to the present has been partly met by the National Board, for they have a director of needlework, who confines her attention very much to the industrial department, but an extension of that office will meet your point?—To begin with, it is not very easy for any gentleman, no matter how experienced, to acquire skill in needlework, and in the second place I don't think he quite commands the confidence of teachers or children as to his knowing it, even if he does.

25265. You were familiar with the mode of examination prior to the establishment of results; that was a class examination; contrasting that with the present mode, which would you prefer—which did more good for the teachers and pupils?—I suppose there was more educational value in the class examination; that other perhaps makes the teacher do his work more thoroughly. I think that the system of examining classes for results would work fairly by sampling classes. I remember a Scotch teacher of a Glasgow school describing to me the inspector's mode there. He introduced him to a large class. "Now," said the inspector, "pick out the twelve best boys in the class." The teacher did. "Now pick out the twelve worst." So he did. "Now pick out the medium twelve. Now I will examine the rest," the inspector said.

25266. The Chairman asked you a question whether under the existing result system dull pupils got more or less attention from the teacher than the bright pupils?—That depends very much on the conscience of the teacher.

25267. Is it not the interest of the teacher rather to work up the dull pupils, and assume that the bright boys will earn the result fees for him without any attention?—That is a very interesting mathematical question, but I don't know the figures. The teachers go into these questions more closely than I could do. I had one teacher who had not a single failure in his school for five or six years; that was the case of a teacher conscientiously working up every boy, but then there would have been schools where it was not possible to do that.

25268. A specialist in drawing also?—Yes, and I think his teaching of drawing favourably affected the whole work of the school.

25269. Your teacher, who was so successful, did he take up many extra branches?—Sincerely any; he was too conscientious to do that, he felt it was his duty to work up the ordinary subjects well. I never went into a calculation whether he made more or less money that way, he satisfied his conscience.

25270. You are disposed to say that the taking up of a great number of extra subjects may interfere with the teaching of the ordinary subjects?—Yes, and I have known a teacher to take up extra branches, not from a desire of making money, but because a neighbouring school had a number of extra branches, and he could not afford to have it said that his school was taking up less.

25271. Would you advocate the propriety of the National Board limiting the number of extras?—I would.

25272. Would not that interfere with the managerial conduct of the schools; a manager who wished to take up a number of subjects might take offence at our restricting the work?—I don't think any manager has a right to exact that the primary system should be made an intermediate system.

25273. Some approach in the direction of your view has already been made by the National Board and the inspection staff by repeatedly suggesting the propriety of not having more than two extras?—I think it should be attendant on the efficiency with which the primary subjects are taught, if they were not taught thoroughly well I would put a very firm brake on the extras. I wonder the Board have not taken more care hitherto in training teachers in the art of teaching, it strikes me as a curious thing that we should get teachers with first-class certificates, which certificates only certify that they have passed a number of subjects, and do not certify that they are first-class teachers of those subjects. I hope more prominence will be given to the art of teaching itself. The two greatest failures I saw in a boys' school were men who had come out of the training college with first-class certificates; they were the most inefficient teachers I ever saw in a school.

25274. Of course you are aware that there must be a few years' course of satisfactory school teaching on the

part of the person who has been trained, in order that he may get a diploma?—Yes.

25275. And the diplomas are of two classes, first and second; so that a manager could ask for teachers with a first-class diploma?—You cannot get that in the case of a teacher just coming out, there is great reluctance to refuse to a man who has passed first class his first-class diploma at the end of two years. I think the test of a person's teaching power should be applied at an earlier stage; the transitional course is a fair test where a monitor continues through the whole five years, but now a great number enter by examination only. I have known some of these turn out very well, because nature gifted them so, but I have known some that were merely teaching machines.

25276. We had a professor of method yesterday who said five-sixths of the time of the students was devoted to subjects bearing on classification, leaving a very short time for the teaching of method—you would not approve of that?—No.

25277. Most Rev. Dr. WATSON.—Are you at all familiar with the working of the training colleges?—Just the very slightest, except what I know from the teachers.

25278. Well, you are in a position to judge of the results?—Yes.

25279. And you do not think that these are satisfactory?—I think they are by accident better than they really deserved to be.

25280. You consider that the idea of the training college being a place where people come to learn how to teach is not sufficiently prominently before the minds of the students in the training colleges?—I am sure it is not.

25281. The idea that the training college is primarily a place, so its name indicates, for training persons in the art of teaching?—I am sure, your Grace, it is not kept sufficiently before them.

25282. Has it ever struck you that the colleges, most of them at least, are not doing very much for the existing teachers in the way of training?—They are merely guiding establishments, for the most part, preparing them for their class examination.

25283. Not merely in the matter of grading, but I find in one college, where there are 102 students, only 6 of these are teachers, the 96 being persons who have come in from outside. Now, is that a satisfactory state of things in one of the colleges set up to train the teachers of the country, over 4,500 of whom, a decided majority of the entire number, are still untrained?—Very unsatisfactory.

25284. In another of the colleges, where there are 117 students, only 15 of these are teachers, and in a larger one where there are 218 students, only 41 of these are teachers. In fact, in these three colleges, out of 497 Queen's Scholars, only 62 are teachers, less than one-seventh of the entire number in those colleges, and 375, that is, six-sevenths of the whole, are students who have not yet entered the service of the Board?—I think it is very unsatisfactory.

25285. Many of these may have been monitors, but they are not yet teachers, and while this is going on, there are over 4,500 National teachers in Ireland absolutely untrained?—I think in many cases the normal student would be the monitor who had just completed five years, and passed the third-class examination; are those included?

25286. Yes. What I get to you is this, is it not unsatisfactory that in a country like Ireland, where, from there having been only one training college until a comparatively few years ago, there are over 4,500 untrained teachers in our National schools, there should be such a small proportion of teachers getting the advantage of training in the training colleges?—I think it is very undesirable to go on training new ones until the old ones are brought up and trained, if possible.

25287. That is precisely what I wished to ascertain. Now, you spoke of some difficulty that might arise in

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the introduction of manual and practical instruction into our schools, from the reluctance of teachers to undertake this work; do you think that there is any very serious difficulty of that kind?—I am afraid there is—managers for one thing would be slow to force a teacher.

25288. But why do you use the word force; why do you think the teachers require to be forced? I know just one case in this diocese where there happens to be a local fund available for the work of practical education of some kind in the school, it is our Catholic school in Swords, and so far from there being any reluctance on the teacher's part to take up the work, the teacher of that school has taken it up with the greatest eagerness, and I might even say, enthusiasm; he was a witness before this Commission. Have you any tangible reason for supposing that the teachers as a body are really reluctant to undertake work that comes before them with a sufficient guarantee that it is really useful work—work for the good of the school?—Nothing, but that I have heard that teachers were opposed to it, individual teachers.

25289. Yes; some of course object, but I am speaking of the teachers as a body?—I suppose they don't like to change their ways.

25290. My experience of teachers is that they are very ready to take up anything that is put before them in a proper way, provided they can be personally satisfied, and of course they ought to be, that it is a good thing for the school. Is your difficulty about the teachers a matter of mere vague apprehension?—Chiefly so, that they would not like to be put out of their way. I think if they are treated with consideration in some of the ways I have suggested that difficulty will disappear.

25291. I quite agree with you. Suppose there were facilities given to them to enable them to qualify themselves to teach some of the new subjects? I have seen numbers of resolutions—you probably have seen them also—passed by bodies of teachers objecting to any of these subjects being introduced unless such facilities were afforded; my reason for putting the question to you was that I feared the inference might afterwards be drawn from your evidence, that you had reason to know there would be reluctance on the part of the teachers?—It was just a general idea that they were wary.

25292. In reference to drawing, you are decidedly of opinion that it is of general utility in the school, that it is of help to the work of the school all round?—Yes, it benefits every other subject.

25293. You are also quite clear as to the educational value of kindergarten work in the school?—I am.

25294. And you would have the kindergarten teaching for boys as well as for girls; you are aware, of course, that in the original conception of kindergarten there was no distinction whatever made between boys and girls; it was a system of education devised for children in their early years before they were sent to school?—It ought to interest boys even more than girls, construction is a peculiarly boyish trait.

25295. Is it not a question whether you can expect teachers of primary schools to take up work of that sort; in the original conception of kindergarten this kind of teaching had nothing to do with the school?—But what we have in Ireland is an adaptation of it to our ordinary school life, and it has done very much to brighten our school life.

25296. Precisely so; kindergarten in the original or German sense of the word is unknown in these countries, and of course it is unknown in the public schools in Germany, the essence of it being that it should be kept out of the schools; but the ideas that we have borrowed from the kindergarten system have had, you consider, a beneficial effect upon the schools, and the school life of the children?—Most useful, it has made the school day very much brighter, and it has quickened the intelligence of the children.

25297. As regards inspection, you advocate the appointment of body inspectors?—I do.

25298. You think they would do some special parts of the work better than the gentlemen inspectors?—Yes, and it should be done apart from the hurry of the examination itself, and it would be done much more thoroughly.

25299. You think that in the nature of things the body is likely to be the more efficient inspector of needlework, for instance?—I think so.

25300. And that in the nature of things the ordinary man inspector is not at all likely to be a good judge of needlework?—I think not.

25301. Yet he may perhaps be as a good judge of needlework as he may happen to be of music?—Sometimes he is a very good judge of that.

25302. But sometimes he is not, and he may even be incapable of forming a judgment about it at all would you advocate the appointment of a special inspector in music?—I suppose that is a kindred difficulty.

25303. Then would you not be prepared to advocate a special inspector in music?—Certainly, I think if it is to be anything but a farce, he should be an expert.

25304. Would it surprise you to hear that we have at present an inspector of music, whose duties call him to distant parts of the country, and we have never been able to get the Treasury to pay his travelling expenses, although he has to travel on this official business, he has to pay his travelling expenses out of his own pocket. I hope that will not be the case with your body inspectors of needlework?—It is absurd. I cannot understand why a Department like the Treasury should interfere with the administration of a great educational organization.

25305. You are aware that the National Education Board has already provided for the higher branches of needlework you spoke of?—Yes.

25306. Whose fault, then, was it that that was not carried out?—I think the system was too elaborate—two hours a day; and partly, I suppose, it came on too suddenly; even the hour a day was objected to at first, besides that would have paralysed a good many of the schools.

25307. Your view is in favour of the introduction of those more advanced branches of needlework. I am afraid you look at the question from a point of view that is not generally accepted as the correct one in this matter: your principal reason seems to be that if these branches were introduced, the children would thus be prepared for earning money?—Not directly as a result of their school education, but they should have got over the wearisome bitterness of their learning and be ready to earn money.

25308. That goes seriously near teaching the trades; as far as I can see, it really would be teaching them a trade?—I looked upon it as a basis for their own acquiring further ability that would enable them to earn.

25309. The teaching of ordinary needlework can be advocated on the ground that, apart from all trade utility, it has an educational value, and over and above that, for domestic uses, it is an important thing that a girl should be able to do a certain amount of needlework, and to do it well, all this goes to justify its introduction into the school, but the case becomes quite different if we go on to deal with needlework as a means of earning money?—Objections might to some extent be against what I have said, but I think it is the one department in which objection would not be raised; there would be no one trade excluded.

25310. But you are overlooking what some of us know is the main point: do you mean to say that the Treasury would not object?—I was not thinking of the ubiquitous Treasury.

25311. But it is from the Treasury that the money would have to come. Now, about the results system, your view is that, on the whole, the system as doing good?—I think it has done vast good.

25312. But I hope you do not ascribe the good results of it to the particular form in which we have it, a system of fees based on the results of the examination of each individual pupil in each individual subject?—I do not, I think a class examination might be really of a higher educational value.

25313. You are aware that in England, as a result of sufficient experience, a results system, such as our present system, was long ago abandoned, your remarks in favour of a results system, apply rather to the general principle that the grants should depend on the nature of the work done, than to our present particular system of individual examination?—Yes, the grant should depend on a close scrutiny of the work of the school, and whether that is carried out by individual examination or a careful examination of the class, it is a matter of indifference.

25314. You recognise that the present system is capable of being largely improved?—Yes, but not abandoned altogether.

25315. Rev. Dr. Evans.—May I understand you to say you are strongly in favour of the appointment of female inspectors in needlework?—Most strongly.

25316. Are there such people in the world as tailors?—Yes.

25317. And if I wanted a suit of clothes would you recommend me to go to a dressmaker or to a tailor? To a tailor by all means.

25318. If a tailor is a good man at cutting-out and sewing and making gentlemen's clothes, wherein is the male sex less the inherent incapacity or unfitted to be an inspector of needlework?—For one thing I consider if the examination is to be of educational value the inspector ought to be able to indicate, not only that the work is weak, but the direction in which it is weak, and I don't think an inspector of the Board has served sufficient time at needlework to be able efficiently to point that out.

25319. Are you aware that in many establishments they will advertise to dress in dresses for ladies, as having some superiority over those made by ladies

themselves?—I am quite aware of that, but it does not alter my opinion that the inspectors of the Board are not the most efficient inspectors of needlework.

25320. Is there anything in the male nature that unfits or makes a man less fit for the duty of inspector in needlework?—I suppose he feels to some extent his weakness himself.

25321. You are not officially connected with any training college?—I am not.

25322. Are you aware that the teachers in schools already always get the preference for coming in for training over other candidates?—I believe they do, but I don't know whether that is very effective under the present system. Are there a certain number of places kept vacant for teachers already trained?

25323. Are you aware that if a teacher would come into the training college for training he has to appoint a substitute at his school, and the absence from his school for a year becomes so painful to his interests that he would rather do without training than run the risk of losing his school?—I am sure that it has hindered them in some cases, but I am not sure that they are entirely welcome in the training college—they are often not the best material for them to get for showing results upon in the training college.

25324. Are you aware that pupil teachers get the second preference for admission to the training colleges?—I believe they do.

25325. And modifies the third?—But that is not very easily carried out in some of them under the system now where all are submitted to examination.

25326. And as regards these particular teachers and pupil teachers and monitors that make application for admission to the training colleges, the greatest difficulty is with elegance throughout the country, who have favourites of their own in their several parishes, each one urging on the authorities of the training college to take in his candidate?—I am sure that is a difficulty.

Mr. EDWARD MACCREANOR, J.R., formerly an Inspector of National Schools, examined

25327. CHAIRMAN.—I believe that you were formerly an Inspector of Schools in Ireland?—I was.

25328. When were you appointed and when did you retire?—I was appointed in April, 1850, and retired at the end of 1851.

25329. Then you had experience of schools before the result system and after the result system?—Oh, considerable.

25330. Will you tell us first of all, what was the state of the schools when you first became an inspector?—I was first appointed to a district in the West of Ireland, the centre was Westport, and my district had a coast line from Sligo Bay to Galway Bay, including the islands. Many of the schools when I first saw them were closed; they were vested schools, and they were unsatisfactory to some parties. But, however, there were no teachers, and very little glass except the corner pieces that could not be broken. Most of these schools on the property of the Marquis of Sligo and Sir Richard O'Donnell had no teachers, and we had scanty opportunity of making teachers, although I had my heart more or less in the work. There was a convent in Westport, and there were some grown-up pupils in it who could write and read nicely, and were well taught in needlework, and we managed to get some slight assistance for teaching arithmetic, and it was in that way we got over the difficulty at first of supplying teachers.

25331. That was in 1850 or a few years after?—This is my note-book for 1851, 1852, 1853. In my time the schools that had been closed were re-opened, and I believe I left fifty three or fifty four new National schools besides a very few schools closed.

25332. Were those schools in good order before the result system, after you got them opened, were

they working well?—They were in a poor state, because the teachers were appointed just as soon as they could be. Some were from the back of Croughpatrick, where they were extremely smart children. I watched the schools about Loughbeg, as I was very anxious about the matter, and I liked the children also, and it was wonderful how we got teachers made out of the material.

25333. But I wanted to know about the state of the schools?—They were very low: it was the opening of the system almost there. On my first inspection the numbers I found present were 1,470, of which number 710 were in first class, 568 in second, 300 in third, and 94 in the fourth; that is about 42½ per cent in first, 34 per cent in second, 18 per cent in third, and 5½ per cent above third. In arithmetic, also, there were, nominally at least, 400 in simple rules, and 120 in compound rules.

25334. I want to get information from you as to what was the system of inspection of schools when you first became an inspector? what was the method of inspection?—The year was divided into three terms, each of four months, and you were supposed to go round the schools of the district once in each term.

25335. What did you do when you got to the school, did you examine the children individually?—Oh, not individually, partly individually and partly in class, and listened to the teacher, also, for I thought the best thing I could do was to try and give a little assistance to the teacher, and teach him also. I had never been in a National school as a pupil myself, for there were none in my part of the country. I set to to organise in my own way, to help to arrange the furniture and establish a starting point. I arranged order, and system, and gave practical hints respecting

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the training of pupils, and their promotion, and the instruments I used for that purpose were the reading tablets. I divided the school, generally speaking, into two divisions, and we carried out the same principles as far as possible.

25336. What means had you in those days, before the results system was introduced, of placing the intelligent children, and deciding upon their promotion from one class to another, examining their reading and spelling and writing and arithmetic in the classes?—You took a child here and there 1—Oh, I took the children all together. I took a draft which was generally the class if it was not large—a large class might contain different drafts—and I then promoted on what I found there. And I made suggestions to the teachers.

25337. Before you ceased to be an inspector the present system of examination for result fees was introduced 1—Yes, in 1872.

25338. Did you find any raising of the standard of education when that was done 1—Decidedly, my own opinion is that it had an enormous advantage in inducing promotion.

25339. Mr. MOLLAY.—That is promotion of pupils 1—Yes. In inducing the promotion of pupils and reducing the labor, and consequently in securing improved exertions in the schools.

25340. Do you think it improved the teachers 1—It must have improved the teachers. First, it would make them, I presume, read a little more for the purpose of securing better results, and it could not do them an injury by making them read more, and work harder.

25341. Rev. Dr. EVANS.—Are you acquainted with the books that were in use when you became an inspector 1—Oh, yes.

25342. As compared with those of the present day, what is your opinion now with regard to the change in the school books; has it been for the better or worse 1—I would be very chary about saying it was for the worse, and I am scarcely prepared to give a very close idea of the relative values, but there was in the old school books some very valuable matter, quite as valuable as there is in the present ones.

25343. You are not certain, but the improvement in the school books may have had to do with the improvement in the schools 1—I would not take the books as the sole cause of the improvement.

25344. But you think that in your latter period, as an inspector, the inspection work was better done than in the earlier period 1—The inspection work was so arranged that it must be done according to a certain rule, whether that was the inspector's intention or aim or view or not, he had to work according to a certain programme. He had a heavy day's work in order to produce the matter required in the Education Office.

25345. There were fewer trained teachers when you began your career as an inspector than when you closed 1—Very much fewer.

25346. Might not the large number of trained teachers have contributed greatly to the improvement of the schools 1—It should, necessarily.

25347. What I want to show is that there were other causes at work to improve the schools besides results, and we must not give credit to results for what was done by improved teachers and improved books 1—The training of teachers should improve them. I don't see how it could act otherwise, and as the books are an improvement on the whole, these would be contributory to the improvement of the schools.

25348. And there are improved methods of teaching 1—Oh, yes. Here is an old note I found in this book, that "many of the teachers had no knowledge of drawing up a time-table with a rational distribution of the subjects that ought to be taught." In an explanatory conversational way I generally drew one up on a slate, giving him an idea of it. And when I had an opportunity of seeing him again, he had a better one written out, and had arrived at a stage

by which he could work better than he did before. The organization of the school was arranged, the children were divided into two divisions, and some fair distribution of them in classes. And I considered, as I do still, that true organization simplifies the school business, and takes away a great deal of annoyance from the poor little children when starting. If a beginner has a fixed place, when it gets up to the head of a draft, it has got promotion; that is one of the first things it will tell when it gets home, and take a delight in. The children were not in a higgledy-piggledy way, here to-day and somewhere else to-morrow, until they began to cry and get unhappy. I take that in connection with the answering of your question, I think it has something to do with it. Here is a document that I carried since the year 1858 constantly when inspecting schools.

25349. Mr. MOLLAY.—I think you were engaged in other districts than Westport—you had experience of Clonmel and Newry 1—Yes, from the extreme west I was sent to the extreme east to Wicklow, and from that to Clonmel, Clonmel to Carrig, Carrig to Drogheda, then to Ballymena, and eventually to Newry.

25350. Now, in connection with the state of the schools prior to the introduction of the result system, did you not find an overwhelming number in the junior classes, and very few in the senior 1—Oh, yes.

25351. Would you think it too much to say that 80 per cent. of the pupils were kept in the junior classes, and it was very rare to find even half a dozen pupils in the senior classes 1—That was the case very often.

25352. That was prior to 1872 1—Yes.

25353. May I read for you the figures lately published by the Commissioners for 1894-95; they say they now have 30 per cent. of the pupils in the senior division—fourth, fifth, and sixth, and of those about 19 per cent. may be said to be in the senior class 1—Yes.

25354. That is a very marked improvement 1—A very marked improvement. I happen to have a paper here for about forty or fifty schools; there were about 6 per cent. above the third class, and only 2 per cent. of girls when I first went to Clonmel in 1858. I was surprised to find Clonmel district so low.

25355. In view of that, was not the introduction of some system, such as has brought about an improvement of 30 per cent. in the senior pupils, very necessary at the time, in 1872 1—It was very necessary. The whole force hinged upon the inspector, and I think very unfairly, for taxing and securing promotion.

25356. Prior to 1872 was there any organized system of promoting pupils from one class to another 1—Oh, no, there was not.

25357. What check did the inspectors exercise over the promotion of pupils 1—I pointed out to the teacher that these children were in the same class in which they were the year before, and if I could induce the manager to come to the school and see the examination I did so.

25358. So it was only the personal influence of the inspector that brought about the promotion of pupils 1—That is so.

25359. Was it not the interest of the teachers to a certain extent to allow the pupils to remain a long time in the same class and present them to the inspector, and get favorable reports without promoting the pupils 1—Yes, but with an inspector who looked closely into the matter it would scarcely pass.

25360. At the present time the sixth is our highest standard, and we have three years in the sixth class—What was the highest standard before the introduction of the result system 1—Scarcely anybody beyond fourth class, and even a small number in the fourth.

25361. And two or three in the fifth class 1—Very few.

25362. What is your opinion of the state of instruction of a child who had only reached fourth class—the information received in the fourth class would last how long 1—There were occasionally children in the

fourth class that it was wonderful how well they were up.

25363. At the time you ceased to act as inspector what would you regard as the value of stopping at fourth class; how long would the school instruction prove effective later on?—I don't say it was a stopping point except in the case of small children.

25364. Supposing a boy left at the end of fourth class, would you say he was likely to derive much benefit from the previous instruction?—Oh, no.

25365. Prior to the result system when the fourth was the highest, the state of information of a boy was almost nil?—It would stick to him as much as to a good fourth class boy at present.

25366. Consequently 30 per cent. now in the senior division is a vast improvement?—Yes, compared with 6 per cent. for boys and 2 per cent. for girls.

25367. It was chiefly in the way of more rigidly promoting the pupils that the result system operated shortly after its introduction?—Yes, and took away a great deal of labour in the school by improved attendances.

25368. Do you think the time has now come when there ought to be a change in another direction?—It amounts to this—that results has got a bad name occasionally in places, and I think it is unjustly blamed; it is not the system that is so much to blame as the style of examination under it.

25369. That is the individual examination of pupils with a view to fees?—It is not the individual examination alone. Take arithmetic—a co-operatively bad teacher may earn as much as a good teacher, because a child can be dragged up to do a sort of questions during the year like the one set the year before, or during the year.

25370. Would not that be an argument for changing the present form?—For changing the style of examination under it, to take away results entirely would be injurious, it would leave the master personally on some individuality.

25371. Have you directed your attention to any modification of the result system that you think would be more appropriate?—Latterly I have not been thinking much about the matter, but the matter is easily worked out with regard to examination under the result system—the child should know something of what it was talking about, and grammar and arithmetic should be better taught.

25372. CHAIRMAN.—Don't you think that arithmetic is well taught now—is it not about the best taught subject in the school?—I don't know that it is.

25373. Mr. MASTON.—In your later days did you find the theory of arithmetic attended to?—Not sufficiently. I was pained to an arrangement of my own—blackboard demonstration I called it for want of a better term—it was a safety valve in the school, any subject that was behind could be worked up with the aid of the blackboard demonstrations.

25374. Have you thought of any modification by which the present system could be altered for the better?—I have not thought about sufficiently.

25375. Have you directed your attention to the introduction of manual work in schools?—Yes, I have.

25376. Are you in favour of that?—Oh, decidedly. But I think the children's tastes and habits and tendencies should be studied; it is no use trying to teach all of them the same work.

25377. You would not have any objection to the introduction of manual work in suitable places?—No, but it cannot be done in individual schools, I think. I heard somebody mention about a central point; the idea was in my own mind that where there were five or six schools that could be grouped and it would not be too far for the children to go one school for each instruction, where there was a teacher who had a taste for it—some may have a taste for shoemaking, others for saddlery or carpentry or woodwork—and where all things teach the child to sharpen tools, and to keep them properly.

25378. Coming back to the point of inspection you

were familiar with the old style of examining by classes, and you are equally familiar with the style of examining pupils individually—what of these do you think brought about a better result in the interests of the school?—My class examination was almost individual, because the parties most ready to put up their hands for a question were perhaps the worst in the class—you could not trust them. I never paid much attention to that, my class examination was nearly individual.

25379. By class examination is not meant simultaneous answering?—No, to take a class and examine it all round.

25380. Or pick out a certain number of pupils?—Well, it is a risky sort of business, a little extra time for examination is not lost, it is useful for the teacher.

25381. Two main points I have ascertained from your statement, that very few pupils under the arrangement in force prior to the introduction of the result system reached the higher classes?—Very few.

25382. Whereas now we have thirty per cent. in the higher division. Also that the promotion of pupils from class to class was quite haphazard and left very much at the discretion of the teacher?—To a great extent.

25383. And from year to year it was quite possible to have pupils examined in the same lesson until they almost had the lesson off by heart?—Yes, that is so.

25384. Then the result system brought about an important change in those particulars?—Yes.

25385. But in return you are of opinion that it may now undergo a modification?—It may.

25386. Most Rev. Dr. WALTON.—I have here the evidence to our Commission given by one of the head inspectors of schools in England, and I should like to know how far it expresses your view in reference to Ireland. I asked him whether he did not consider the change recently made in England in reference to the results examination a decided improvement, and he said that he did. That referred to the abandonment of the system of payment on the basis of payment for results as ascertained by class examination, the abandonment of that for the present more chaotic system, in which the inspection of the school determines the payment; at least no examination is necessary. Now I take it that you consider our existing system is capable of improvement in that direction?—That is my view.

25387. Next I asked him whether his view on this point would imply that a mistake was made when the system of payment by results was introduced, and he answered, "At that date, no." Now am I to take it that this is the answer you give in reference to Ireland?—Just so.

25388. Next I asked him about the introduction of the old results system, very like our present Irish system. "Do you not think it was then a most useful change?" and he said "I think it was necessary at that date." Now do you go that length?—I do think it was necessary when it was introduced.

25389. Then again I asked him, "Do you not think that it was the introduction of that system at that particular time that enabled the educational system of England to be advanced to its present state of efficiency?" and his reply was "I certainly do." That no doubt is a very sweeping statement; but I would ask you whether you would say that the introduction of the results system contributed to the great improvement that has since taken place, that, with the other elements to which Dr. Evans has alluded, it contributed to this great improvement?—Yes, decidedly.

25390. Here is another question and answer: "The old results system was then necessary for them?" "Yes," he said, "absolutely, thirty years ago." You agree that it is quite consistent with all this to recognise that there is great room for improvement of the system now?—I think there is.

25391. It would be a serious mistake—a mistake, however, that is very frequently made—to infer that

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it was a wrong thing in the interests of education to introduce our results system when it was introduced thirty years ago, because people recognise that it requires reconstruction now!—A free agent would scarcely state such a thing.

25392. But it is very frequently stated. I am seeing it in newspapers every week in my life; you at all events are very far from saying it, you distinguish between the two things, and you say that the fact of its being capable of improvement, or in need of improvement now, has nothing whatever to do with the wisdom or unwisdom of introducing it when it was introduced; and you say moreover that when it was introduced it was a most useful and even necessary change!—I think so.

25393. Before the results system was introduced you were an inspector!—Yes.

25394. And you have described your practice in inspection. You said you were able to pay three visits a year to a school, and on the occasion of those visits you were able to give the teachers useful directions!—Well, I tried.

25395. Do you not think it is impossible for the inspectors to do that important educational work under the system that we have now!—Under the present system it is impossible they could do it, for this reason, they have a heavy days' work independently of that.

25396. In other words, the inspector's time is now so completely taken up with examining everybody and everything, putting down marks, and calculating percentages, and filling up returns, that it is quite impossible for him to do that useful, and I would say necessary, work that you used to do!—Quite impossible.

25397. Of course you recognise that it would be a decided advantage to set the inspector free to do that work again!—As free as possible.

25398. About examining, you object to what is sometimes called class examination, and I think you use the word in the sense of having the children sing out an answer all together in a sort of chorus!—Yes.

25399. I suppose there is very little room for difference of opinion as to that; but what would you say to class examination in another sense, as I understand the term; to bring out the points I will put a

question to you that I put to Sir Joshua Fitch when we were in London. Suppose that, instead of examining every child in every subject, the examination was so conducted that every child would be examined in some subject—one set of children in arithmetic, another set in reading, another in geography, and so on, would not that enable the inspector really to test how the different subjects were being taught in the school!—I think it would unless the children were manipulated.

25400. But suppose they were not manipulated; take it in this way—let us say there are six subjects, then, instead of the inspectors spending two or three days worrying himself and everybody else by examining every child in each of these subjects, he divided the children into six batches, and examined one batch in reading, another in arithmetic, and so on, and then if his report were satisfactory the teacher would get recognition for the teaching of all the children in the six subjects!—Yes if it was carefully done.

25401. And so it could be done in one-sixth of the time, or say one-fourth of the time, it would enable the inspector to give useful help educationally to the teacher of the school!—Yes.

25402. The inspector now is so pinned to his work that the teachers of the district are almost always enabled to know precisely where he is and where he is not, and that may not be an unmixed advantage!—No, and I think it would be useful to have incidental visits more frequently paid.

25403. What I suggest would set him free to pay incidental visits!—Not himself only but his assistants also; I think their visits should be taken after consulting with the district inspector, and they should make the visit while the school is in session, so honest teacher will have any objection to it.

25404. But at present everybody's time is taken up with all this work of examination and tabulation of results and making up statistical returns. I suppose the inspector's assistants would be likely to be of use to the teacher in giving directions as to methods of teaching!—The inspector's assistants also know the business thoroughly.

25405. I believe they have had practical experience as teachers in the schools!—Yes.

25406. You would strongly recommend a change to be made that would enable those visits to be paid!—I would.

FIFTY-FOURTH PUBLIC SITTING—FRIDAY, NOVEMBER 12th, 1897.

Dublin,
Nov 12, 1897.

AT 11 O'CLOCK A.M.,

At the Ancient Concert Rooms, Dublin.

Present:—THE RIGHT HON. THE EARL OF BELMONT, G.C.M.G., in the Chair; HIS GRACE THE MOST REV. WILLIAM J. WALSH, D.D.; THE RIGHT HON. C. T. REEDINGTON, M.A.; THE RIGHT REV. MONSEIGNOR MOLLOY, D.D., D.S.C.; REV. HENRY EVANS, D.D.; REV. HAMILTON WILSON, D.D.; and W. R. J. MOLLOY, Esq.;

with J. D. DALY, Esq., M.A., Secretary.

Rev H. KENNEDILL MOORE, M.A., Principal, Church of Ireland Training College, Kildare-place, Dublin, examined.

25497. CHAIRMAN.—You are the Principal of the Church of Ireland Training College in Kildare-place?—Yes, my lord.

25498. That college is under local management, but in connection with the National Education Board?—Yes.

25499. You consider that certain subjects should be made compulsory in our system of education, which at present are not compulsory. Kindly state what the subjects are, the introduction of which as compulsory subjects you think would be desirable?—I think, my lord, that drawing might very well be made compulsory, because from the standpoint of the schools, for reasons which I could give if questioned on the subject, that I think might fairly be made compulsory, and on the other side, from the point of view of the object of this Commission, it appears to me to be one of the most necessary subjects for manual and practical training.

25500. When you say that you think drawing should be made compulsory, you have in view the general system—the school programme—on the National schools throughout Ireland?—Certainly.

25501. Do you think that elementary science should be made compulsory, or, if not, what would you say about it?—I suggest in the memorandum which I sent in, that it might be made compulsory as soon as preliminaries could be arranged,—that is a rather important exception.

25502. Will you tell us what the preliminaries are?—The preliminaries would fall under three heads—the first is a proper syllabus from the National Board; next, encouragement for the training colleges to teach it; and the third, is training for the inspectors to examine in it. All these things would require a great deal of thought.

25503. Would you not add to that, means being found of acquiring the apparatus necessary?—Your lordship means, I suppose, financial means?

25504. I have more in my mind—laboratory apparatus where chemistry is taught?—Those would, of course, come under the necessary preliminaries. And the idea I had in my mind in speaking of a proper syllabus would be a syllabus that could be worked, and that would be one of the essential points.

25505. It is a very important detail for us to inquire into, where the means of purchasing apparatus is to come from?—I was not contemplating a thorough knowledge of elementary science, but there is a great deal—for instance measurement, which forms so important a part in England—a great deal which could be done without much apparatus, and I should be sorry that such a subject should be postponed, because it could not be done all at once perfectly.

25506. What are your views upon the subject of school gardens?—I think that school gardens might be almost indefinitely extended. I happen to be

familiar with a great many schools in the diocese of Cork. A very large number of them had some land attached to them, quite enough for a garden, though certainly not enough for a farm, and I think nothing but good could come from cultivating the intelligence of the children with reference to horticulture. I remember one school garden, which was a subject of great delight to all who had to do with it, it is near Dunamony. Sometimes in Kildare-place, where we suffer very great drawbacks, being in the middle of the city, one tries to do something in the way of imparting a knowledge of plants and plant life. All these things might be worked out with great ease and little cost—fruit growing, vegetable culture, and things of that kind. It is one of the simplest subjects to introduce, if the teacher only gets training and encouragement.

25507. As regards agriculture, at present agriculture is only taught out of books as a rule?—That is practically so.

25508. There are, I believe, eighty-two school-farms through all Ireland, which is, of course, a poor percentage. Do you think that the present system of teaching agriculture out of books is of any practical use, if it is not followed up by something more definite in practical instruction?—I should be very sorry to say it was of no practical use. One illustration came under my notice quite recently—such a matter as a haybarn. I believe haybarns have been advocated in the book, and they have been largely introduced into the country, and I should think the book had something to do with it. All my life I have had an interest in horticulture; but I know absolutely nothing about crops: what little I did learn was from the agriculture book, when I was an inspector in the diocese of Cork. I found the book gave me great help, and it is a step, although I don't think it goes a long way. The book could be made of very much more value if the examination was of a different kind. It is one of the many ways in which the whole system suffers from the results system. The inspectors examine in a cut and dried way from the book. If, instead of doing that, they went to examine practically, there is nothing in the world to prevent the teacher having specimens of potatoes, turnips, mangolds, and corn present on the day of the examination, nothing to prevent certain kinds of measures—such as would not be offensive—nothing to prevent those being required by the inspector, and a practical examination given, even with the present limited resources. I think the system of examination is a good deal to blame for the subject not being more practical.

25509. As regards the hand and eye training, you think that that should be encouraged in the junior and middle classes of the school?—Yes, certainly, I do.

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25420. Kindergarten, I believe, is now only carried on in the infant schools or infant department of schools?—So far as I know, only there.

25421. Would you be in favour of extending that sort of thing under the head of occupations to the third and fourth classes?—Yes, I certainly should.

25422. So that there may be no gap between that and any manual work in the fifth and sixth classes?—Certainly.

25423. Would you be in favour of encouraging where possible, not as a compulsory matter—that probably would be very difficult—but as an optional subject, the introduction of woodwork in fifth and sixth classes?—Certainly, in favour of encouraging it. It is a subject with which I see great difficulties connected. The question of plant comes in there at once in a very emphatic way.

25424. And also the question of suitable teachers?—Suitable teachers, of course, is another difficulty.

25425. But where it could be done, and the teacher wished to take it up, or the manager and teacher jointly wished to take it up, would you be in favour of encouragement being given for its introduction?—Yes, certainly.

25426. I believe that you think that there are three necessary factors required in connection with the introduction of manual instruction, and those other subjects you have mentioned—one connected with the Education Office, one connected with the training college, and one connected with the system of inspection. Taking these heads in the order I have given, will you tell us what your views are?—I think that at the bottom of all these subjects must be the directions laid down by the Education Office, and in accordance as they are wise and workable, must, to a very large extent, be the success of any scheme that is introduced. I took the liberty of putting down in my memorandum some examples to the contrary.

25427. You say a syllabus?—In speaking about the regulations of the National Board, I trust I may do so without being suspected of a desire to criticize Mr. Redington, whom I have always found most considerate and kind; I should not have entered on the subject if I thought it would have annoyed him. One of my examples was the industrial programme. I am under the impression that needlework had been a good deal neglected when that industrial programme was introduced; it seemed to me to be just the opposite swing of the pendulum; it put the needlework on in such a way as to provoke a rebellion. I know that the witnesses generally have attacked that programme, so that probably there is no necessity for saying more on it.

25428. The trend of evidence, I don't say in Ireland, but certainly in England, is that the time for needlework should be reduced?—Two hours a day is quite too much. The new programme, which has been at work this year for the first time, is a subject on which in Kilbarney we have felt a little.

25429. Mr. MOLLER.—That is the teachers' programme?—Yes, the teachers' programme, there is a great deal in the programme with which we have agreed very cordially and we welcome its introduction, but there are certain ways in which it is applied which have hit us very considerably, and which I think will hurt all who come gradually to work it. It has been worked this year at Marlborough-street and Kilbarney, I am not sure whether it was worked at De la Salle. The first point that comes out strikingly in connection with it is this. Our college was opened in 1874, and from 1884 to 1896 we presented over a thousand students for examination, but we only had fourteen failures in all those years. This year we presented our students as usual, and in the one year, even after some consideration being shown in the masters, we have had ten failures.

25430. Most Rev. Dr. WALSH.—Ten failures out of how many?—Out of all the college, I have not the exact figures for this year; I should say about 115.

25431. CHAIRMAN.—With regard to that point will you tell me whether it is necessary for the student to pass in every paper?—Yes, my lord, that was one of the points I was coming to. In the old programme there were for men twelve subjects, upon which a pass was compulsory in each one of them; in the new programme the number has been raised to seventeen. In the old programme for the female teachers there were eight subjects which were compulsory, the number has now been raised to fourteen. That at once exposes an unhappy candidate to being hit in a great many more quarters than he was capable of being hit in before, and makes the preparation one of extreme anxiety, and failure in any of these subjects, as far as we can see, is treated without any special regard to their relative importance. Let me give a concrete instance. One of our students who, on entering, got an exhibition for answering over 70 per cent, and who has always had a high place in two colleges, answered this year over 70 per cent, which has generally been considered very good answering; but he is a failure, because he failed in one of the new subjects, mathematics. This was one of the subjects introduced as a separate subject for examination this time; it was on in the afternoon, a time which is undesirable for mathematics, if it can be avoided. He happened to have a bad headache that afternoon, and though a clever man, he did a bad paper, and he is a failure for that reason. Then, when we come to look at the English training college requirements, we find that our seventeen subjects become—it is not too strong a word—a hardship by comparison. In England students are examined in thirteen different subjects, and they may fail in any one of the following subjects without losing their examination—Drawing, geography, English history, algebra and mensuration, geometry, languages and science. When a student fails in England in geography, history, algebra, or mensuration at the close of the first year, he may present himself in these subjects again at the close of the second year, he is then at liberty to sit upon the first year's papers, and even should he fail for the second time he is not refused his certificate of training and classification as a teacher, provided he has the necessary percentage all round. That seems to make a tremendous difference as to the conditions under which the colleges work.

25432. Most Rev. Dr. WALSH.—There are thirteen subjects of examination in the English programme, and of these there are seven which are not really compulsory, so that it comes to this, that in the English system there are only six subjects in which it is necessary to pass?—It comes to that.

25433. It may be well to state what the six are?—In the Training College Blue book there is the following note—"The maximum number of marks attainable in each subject is placed within brackets, and those subjects in which failure excludes from a certificate are denoted by the mark which is given." I see the mark opposite reading, repetition from memory, penmanship, spelling, theory of teaching, English composition, and criticism.

25434. MESSRS. MOLLER.—Might we get the percentage all round, that must be obtained in order to get a pass?—I don't think that is known, sir, at any rate I don't know it. I notice Sir Joshua Fitch said in his evidence that they had never exactly defined what constituted a failure.

25435. CHAIRMAN.—I see that in your proof you have put down the words "intelligent mathematics," will you detail a little what you mean by that?—I was thinking chiefly, my lord, of the drawbacks of the present results system. For instance, by way of illustration, to instance the colleges, there we work under the results system, which I have been detailing. It is not a pecuniary results system, the conditions are very gentle in that respect, but it is a system which means that if we don't get our students through in all these subjects, which are cleverly defined, that they are failures and we suffer in prestige.

25436. You would advocate a system analogous to the English system?—Yes, in the training colleges most certainly.

25437. I believe that in the training colleges you are willing to co-operate in introducing such subjects as cooking, dressmaking, bookbinding and handwork?—I gave them as an illustration of subjects in which we do co-operate very willingly already. I believe, speaking for Kildare-place, and I think the same applies in all the Irish training colleges, that we are very willing to follow any lead given by the National Board, and to introduce any subjects that may be thought good.

25438. With regard to defects in the present system of training colleges, what do you say as regards their being places of acquiring knowledge in contradistinction to places where persons are trained how to teach what they know already?—What I have to say with reference to that is, that owing to the nature of the conditions laid down, which I have to a certain extent detailed, they must do a great deal of work, which is solely a preparation for an examination. Of course I should be very sorry to convey the idea that we have not laid very great stress in Kildare-place upon preparation for teaching, even long before it had anything to do with the certificate examination, which I am glad to say it has now. That is one of the great advantages of the new programme. But even before that there was very heavy stress laid by us on this preparation of teachers in the most practical way. I may mention that I have been in the habit of drawing up, with the help of the masters and mistresses of method, at the end of the year a list of students in order of merit. That order of merit has nothing to do with their examination results, either at entrance or the first year, it is based solely upon the work they do in the schools and criticism lessons, and in the programme, which it is my duty to exercise in appointing them to schools, that is the list by which I am guided.

25439. You exercise that preference upon what you consider to be their ability to teach, and not upon their personal knowledge?—Not upon their personal knowledge; but of course, as I said, we have to do more in the way of grinding for an examination in subjects than we like.

25440. Could you give us any idea how much time you devote to teaching the knowledge which they have to acquire as compared with the time given to teaching them how to teach?—It would not be possible to answer that question precisely. I can, of course, say the regulations of the training college for the definite teaching work, but I cannot say what each professor in his schoolroom gives to teaching work as distinguished from mere grinding work.

25441. Has he discretion to a certain extent?—In his own hour each professor has discretion as to what he does.

25442. What do you say upon the subject of handicraft and drawing?—The present handicraft course is not educational, it is a valuable practical course, which our students have taken up and have passed in large numbers. Since we commenced it in 1867, which I think was very nearly the commencement of the drawing up of the syllabus at the Education Office, we have had in our college 175 male students, a number of whom we could not present, but altogether we have got ninety-four certificates for handicraft. The course is in no sense an educational course, it merely teaches them to do certain mechanical operations, and the patterns set in the paper are altogether of a practical kind.

25443. Your handicraft consists of woodwork?—Yes.

25444. Is it done in connection with drawing?—No, that was one of the things I was going to speak about.

25445. Don't you think that that is the weak point of it?—More certainly.

25446. Do you think that woodwork, as we saw it in one school in the North of Ireland, done without the slightest connection with drawing, is likely to be anything but a failure?—It falls in its chief educational object. I may mention that I saw those schools at Westminster, which the Commission visited, and I did my best to master the outline of the system. Afterwards I entered into communication with the authorities, and persuaded them to make for me a set of models illustrating their system and drawings to accompany the models. I got them over in the hope of introducing them at Kildare-street, but I found in fact of the present programme it was no use. It is just an illustration of the want of a sympathetic syllabus.

25447. What do you say about drawing?—Drawing in the same way is executed in a manner which is not likely to make the teachers think how to teach it; they are simply asked to copy either a model or a specimen of freehand, which is set before them, and questions are ever asked with regard to the method of teaching. By the introduction into the course of examinations of that kind with reference to such a book as Mr. Taylor's there would be a very great improvement.

25448. Do the inspectors ever ask the students when examining them to use the blackboard and show how they would teach with reference to drawing?—Never with reference to drawing, with regard to other subjects the blackboard is used continually.

25449. Do you think that the inspectors are sufficiently in touch with the colleges?—No, I don't think that there is any sign of the inspectors as a body touch with the colleges, and it is no use for a college to do good work unless the inspectors are in touch with them.

25450. In what way do you think they should carry on a different system to what they are doing?—I am speaking from an outside point of view, I know the inspectors are an exceedingly hard-worked body of public servants, but for a year or two after they begin they may not have such a large amount of work. I think they ought to visit the colleges, see the criticism lessons, and have conversation with the masters and mistresses of method. We might gain something from visits of that kind, and the inspectors may gain something themselves. If they visited such systems as are good at the training colleges, it would help them to improve the schools, so that the system, if good at the training colleges, might make the schools better.

25451. Is your method of teaching measurements, geography, grammar, and arithmetic, a different one to what is pursued in the schools?—Yes, I think with regard to all those subjects we have been trying to do better than the level of the schools and have failed to a large extent, because while they were with us the students had a knowledge that they would not be questioned on those subjects afterwards, and when they went out they dropped them at once, because nobody ever made any allusion to them. What I mean by measurement is training the eye to know heights and lengths and lengths, is one of the first stages in experimental science to teach careful measurement. We have in nearly all our rooms the height of the rooms marked, and in some details as to the area of the rooms. In our criticism lessons we accustom our students to apply these practically, and we urge our students when they go out into their schools to carry out the system, if it was only by putting the measurements up on a slate in a corner of the room. I have come across cases where our advice had been taken, but in the majority of cases the advice has been forgotten.

25452. Now as regards geography?—That was a subject that I often felt great regret was not treated in a more intelligent way in the examination of the schools. The methods now recommended are no new discovery, Mr. Robinson, whose book was on the Board's list, lays it down in that book, published as far back as 1860, that

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the proper way to teach geography is to begin by dealing with the locality, and getting the locality mastered in a practical and interesting way. It is a rule with me at Kildare-place that every female student must draw a map of her surroundings. They draw a map of the schoolroom and then a map of Kildare-place, set in its surroundings in the neighbourhood. We endeavour to impress on them the importance of that, and to carry out the same system in their schools. But it is plain that if the inspector really examines in a cut and dried way, "How many counties in Ireland?" and "How many towns?" and still more useless, the lengths of rivers and heights of mountains, it is quite plain that it is not their fault if they don't carry out that system. Something might be done by the Commissioners publishing better maps. It is allowable for a teacher to take up the geography of a county, but the maps are so insufficient that they don't serve as an encouragement.

25453. Are these not good and useful maps of the Irish counties to be had on a sufficient scale to be really instructive?—I don't know of any, and I think it is extremely improbable, because I find when I come to study maps drawn up by the very best English houses, they show a lofty contempt for all things Irish, and even a railway that may have been established for two or three years will not be marked on the latest English map. I have some knowledge of this, through our Depository in Kildare-place, and when I occasionally take the liberty of pointing out the shortcomings of those gentlemen with regard to Ireland, they say there is no demand and it does not pay to be up to date.

25454. How do you teach grammar?—We always try to impress on students the importance of teaching grammar on the inductive method, we get them to examine sentences. Suppose the lesson was on adverbs, they select sentences in which there are adverbs, and working from the sentences, they are taught to lead up to the definition of an adverb; and we try to carry that right through our grammar, but I don't think it ever passes beyond the walls of Kildare-place. As regards calisthenics, that is a minor point, since the schools were founded by Lancaster, from 1818 onwards, drill and calisthenics have always been our specialty there, and personally I believe in them. I think they are the keynote for order and discipline in the school, so we insist on all our teachers mastering a system of calisthenics with the view of improving their discipline.

25455. Do you find they do not follow that up afterwards?—A great many do, that is more followed than any of the other matters, because it is attractive and appreciated by the parents.

25456. It amuses the children?—Yes, but I don't think the inspectors take any notice of it.

25457. Most Rev. Dr. WALSH.—Are you aware that in the Scottish system a school cannot get the higher grant for organization unless attention is paid to drill, and drill, I suppose, corresponds pretty nearly with calisthenics?—I did not know about the Scottish system, but I knew it was so in England.

25458. Don't you think that it would be a very useful arrangement to make in Ireland?—It would.

25459. Take it in this way. Suppose that our present system of paying out the grants to the schools was changed, and that a special grant was to be given for general organization, discipline, general good tone of the school, that is to say, having the school as a school up to the mark, outside the mere bookwork; would it not be a useful thing to require that in this case a higher grantbooklet not be earned unless there was some form of physical drill provided?—Most certainly.

25460. You spoke of your Kildare place system of teaching grammar: as you have a system, that you can call your own, I hope you don't begin with a treatise on formal grammar?—No.

25461. In Edinburgh, we were told by one of the most experienced inspectors there, that if he had his

way he would not on any account let a text-book on grammar into the hands of a child. Then he was asked how he would teach grammar, and he said he would teach it by taking up sentences from these reading books. That seems to me a very rational system. Does it correspond with your system?—Yes, your Grace.

25462. In reference to geography, you say that the absence of county maps of Ireland is a drawback, and I think you said that the maps published by the Commissioners of National Education are not everything they ought to be; now I am not at all likely to champion the Commissioners of National Education over everything they did in the past, but we must be fair; remember that there are no maps published by the Commissioners?—I did not mean to say published by the Commissioners, because I don't think they are published by the Commissioners.

25463. There are maps on the Commissioners' list of school requisites, and they supply these on requisition, but there are no maps published by the Commissioners themselves; is not that so?—Yes.

25464. Mr. MOORE.—And the price of the maps Mr. Moore refers to is three halfpence each.

Most Rev. Dr. WALSH.—Possibly you may think it would be an advantage to have such maps published by the Commissioners, or at all events, if not by them, then by some other body?—Most certainly it would be a great advantage to have them published.

25465. The Commissioners, as you know, have published a large number of books, and many of them are not exactly such as you or I would regard as models of what school books ought to be?—That is so.

25466. And consequently a number of these books have almost dropped out of use in the schools?—Yes.

25467. I understand you to say that you approve of the system of beginning geography with the geography, or perhaps it is better to call it the topography, of the place that the children know, and first of all with the schoolroom?—Yes.

25468. There is a system generally adopted in some of the German schools, we saw it in England also, first, they have a plan of the schoolroom, then a plan or map of the place immediately adjoining the school, and of course including it, then perhaps the town or city, say, Dublin, as a whole, then the city and suburbs, next the County Dublin, and then Ireland and so on, until in the end they have got on, step by step, to those two hemispheres that our unfortunate children are set to puzzle themselves over in the very beginning?—May I mention in that connection that some of our most useful citizens leave us from the town from which the student comes and its surroundings, and another lesson is on the Dodder, and many of them will walk along the Dodder to study it.

25469. A very experienced inspector told me that he sometimes asked the Dublin children had they ever seen the Liffey, and they said they never had, they were then asked to point out the Liffey on the map of Ireland, and they pointed it out at once, then he asked had they not sometimes been on one of the bridges in Dublin and had they not seen the Liffey then, and they said no, and when he asked them what they had seen, they said "the river." You are not surprised at that?—I could quite understand that from the ordinary teaching of geography.

25470. I tell you that we found the very same thing in a certain place in England?—I am very glad to hear it.

25471. Now in speaking of the four subjects that you speak of as the "K. P." or Kildare place, systems, that is, measurement, geography, grammar and calisthenics, you say that they are not recognised by the National Education Board, and not encouraged?—This is under another heading, about the inspectors.

25472. It refers rather to the work of the school, the practicing school, than to the work of the training college, at least, primarily?—Yes.

25473. You think that those four systems ought to

be recognised in the schools, and that, being recognised in the schools, they ought to be prepared for in the training colleges?—Certainly.

25474. Then it seems to me there is a slight inconsistency in what you say; correct me if I am wrong. You began, I think, by objecting that there was not a sufficient number of subjects for examination in the training colleges, now this recommendation seems to go towards introducing an examination in other subjects; is that so?—Geography is a subject, grammar is a subject and drill and calisthenics would be so much a habit that an experienced inspector would see in two minutes whether it was done.

25475. But that would be of no use unless it was followed up by something in the way of regulating the grant?—No yes, certainly.

25476. Then do you think that these things should be taken into account in regulating the grant?—Yes.

25477. Take geography, for instance, you would require, in addition to all the things required at present, at all events in addition to some of them, that the children should be taught the topography of their own locality?—I think I was careful to imply that I would not care how little they knew about such matters as rivers in Asia or in Europe, or even about the rivers of England, except in a general way.

25478. What you mean then is that they would get a real grasp of the meaning of geographical terms if they began by having those terms applied to places and things that they were seeing every day of their lives?—That is my view.

25479. You also think that the inspectors ought to be more in touch with the schools, and, of course, I quite agree with you, but do you think it is physically possible for the inspectors at present to be really in touch with any school in the country, seeing that so much of their time is taken up with all the routine work they have to do over the details of the results system as we have it, in its present form?—Your Grace is touching on a subject I did not touch on, but on which I am quite prepared to answer. It was in the training colleges I said the inspectors ought to know what is going on.

25480. But I would ask whether in the present state of affairs you think it possible for the inspectors to be in touch either with the schools or colleges?—I don't think it is.

25481. You regard this as one of the evils of the results system in its present form?—Yes.

25482. We heard yesterday from an ex-inspector that when he first became an inspector, he visited, and was obliged to visit, every school in his district three or four times a year, and when he was asked what he did on those occasions, he said he conferred with the teachers, observing their method of teaching and made suggestions and so on; you regard all that, I am sure, as very important?—Yes.

25483. But unfortunately it is work that can hardly be done at present, indeed I may say that cannot possibly be done at present, owing to the way in which the time of the inspectors is occupied, with making out figures about the answering of the pupils in connection with the results examinations?—That is so.

25484. Now in reference to drawing: in the examination in drawing you say, the teachers are merely tested as to whether they can draw, and not at all as to whether they can teach drawing?—That is so.

25485. The blackboard, I think you said, is not used in the teaching of drawing?—I did not say that, your Grace. I said I did not think the blackboard was ever used in examining in drawing.

25486. Then it is used in the classroom in the teaching of drawing?—Certainly.

25487. You consider that it ought to be used also in the examination in drawing. Is there, so far as

you know, any test required by the Board of National Education—any test that would ascertain whether the candidate knows how to teach drawing?—Nothing that I know of, your Grace, in the examinations.

25488. I am not speaking now of voluntary tests. I understand from some questions I have heard put here, that any teacher who wishes can give in the subject of drawing as one of the three model lessons that he is prepared to submit himself to the inspectors to be tested on, but that is voluntary, the student need not put that subject in at all if he does not like it?—No.

25489. Therefore there is really no test, in the proper sense of the word, imposed by the National Education Board to ascertain whether a person whom the Board is going to certify as a teacher of drawing can teach drawing at all?—No test.

25490. The Board gives certificates of capacity to teach drawing without doing anything to ascertain whether the person whom it is going to certify has any capacity whatever to teach drawing; that obviously is a great defect?—I think it is.

25491. Now as to another subject, handicraft, in handicraft your difficulty is that the present programme or syllabus of the National Education Board is not, I think you said, sympathetic?—I quoted that as an illustration of why the present handicraft instruction, such as it is, and as we try to work it, is not educational in the sense in which the phrase is used with reference to manual training in England.

25492. I don't quite like the word sympathetic; it is apt to convey an idea which I don't think you mean at all to convey. I am sure you do not think of suggesting that there is want of sympathy with these very reasonable views of yours at the Board of National Education?—Certainly I did not mean to convey that.

25493. You mean that the present programme of the Board is not really educational?—Yes.

25494. It is worked practically without a connection with drawing, which is an obvious radical defect; the whole object appears to be industrial rather than educational?—Yes.

25495. You are acquainted, I assume, with the Sloyd system?—Yes.

25496. I suppose you would say that the present handicraft programme of the National Education Board has no connection whatever with Sloyd, and in fact no relation to it?—None whatever.

25497. I need hardly ask you which of the two do you think the more appropriate in a school?—The Sloyd, beyond all question.

25498. You speak of the Sloyd, I take it, only in a general way?—Yes, I have seen it taught and know the principles.

25499. It is capable of adaptation to the needs of different countries, you don't of course mean exclusively Swedish Sloyd as worked in Sweden?—No.

25500. But you mean a system of woodwork constructed on really educational lines, as the Swedish Sloyd system undoubtedly is, and as the currently constructed system of the National Education Board undoubtedly is not?—Yes.

25501. As to the special work of the training colleges—You were asked by Lord Belmore about the time that is given to each of the two branches of work of the training college, that is, on the one hand, the teaching of certain subjects to the students, and, on the other, the training of the students in the art of teaching, you said, I think, that you could not exactly define the amount of time given to each?—I said I could give the principles upon which we work.

25502. Don't you think that the whole system embodied in the programme of the National Education Board obliges you to give an undue amount of time to the work of teaching the students, as distinct from the work of training them in the art of teaching?—Beyond question.

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25503. And don't you think that the whole system, as it exists in all the training colleges, taking years of course only as a specimen, is calculated to put before the students in those colleges a wrong idea of the function of a training college, to suggest, I mean, that the college is a place to which students come to be prepared for passing examinations, examinations by passing which they can improve their classification, and so get a better salary?—I think the system has that tendency, but if I may speak for my own college there is nothing they are told there so often as that mere examination work is not the object of the college.

25504. Still the system is such that it is put upon the college to make a special effort to counteract what is undoubtedly the natural result of the system itself?—Yes.

25505. Had as all this is, we have to remember for our comfort, if it is any comfort to me, that in this respect the programme in other countries labour under exactly the same defects; the programme in the English and Scotch training colleges, I have been assured by inspectors of great experience in England and Scotland, raises exactly the same difficulty that we complain of here?—That is so, I think, to perhaps a lesser extent; but it is so.

25506. At all events you recognise, I am sure, that the Commissioners of National Education deserve some credit for moving of their own accord in all this matter with a view to ascertain the defects of the existing system?—I should be very sorry to appear as an unfriendly critic of the Commissioners of National Education.

25507. You recognise that the National Education Board of the present day has a thoroughly open mind on all these subjects, and we, the members of this Commission, such of us as are also members of the Board, have come here for the one purpose of getting every useful suggestion that persons of experience such as you can give us?—Undoubtedly.

25508. As to the results system, you said that you had to work to a certain extent under it in the training college, but not in its pecuniary aspect—that you only suffer in prestige?—We suffer in prestige, of course, if we don't pass our students.

25509. But there is no reason why you should not pass your students any more than the people in other training colleges: if the cause of failure is that there is anything wrong in the programme, then it tells all round, and if everybody suffers all round there is no particular loss of prestige anywhere?—I am not complaining as compared with the other colleges.

25510. But there is point in your complaint: all the training colleges may suffer in the eyes of untrained teachers: if they see the students failing, they will think it is because the college are not what they ought to be?—Certainly.

25511. But as to the results system, have you not to work under it in the training colleges, even in its pecuniary aspect?—To some extent, yes.

25512. I should certainly think so, and hence I was surprised at your limiting it to a question of prestige: there is a bonus given to the college on condition that the trained teacher who goes out from it subsequently fulfils a number of requirements—he has to satisfy all the tests of the National Education Board that he has taught satisfactorily for two years?—Yes, £14 and £30.

25513. No matter how well the training college has done its work, still if the teacher does not actually fulfil these conditions, the training college does not get the money: it has done its best to earn?—No.

25514. Just as if an eminent doctor had done his best for a patient, but was to get no fee because the patient was not perfectly cured: that, as we know, is the aspect of the results system in the schools that is so generally complained of by the teachers: they

say that when they do their work, and do it honestly and thoroughly, so far as in them lies, they ought to get paid for it?—Yes, your Grace.

25515. We have, of course, to remember here that the bonus to be paid to the training college may be calculated on the principle that it is impossible that every candidate going out from the college should comply with the prescribed conditions, so that the bonus should be fixed at such a figure as will ensure the college getting what it is entitled to, allowance being made in the computation for the fair average percentage of failures?—That is so.

25516. And it is quite possible that the bonus is really struck at the particular figure at which it stands, in order to make all due payment to the college for doing its work as well as a college can be expected to do it, allowing for the small inevitable percentage of failures: if that is really so, and, for all I know, it may be, the college in the net result would get all it ought to get?—That is really the reason I said we should not suffer pecuniarily.

25517. Possibly it is so: so that if, instead of a bonus on the successful students, an extra payment was to be made for every student, in addition to the £10 a year now paid, then the extra payment would have to be struck at a lower figure than at present?—Yes.

25518. Perhaps that may be the correct view, and, if so, it may possibly apply to the case of the teachers and their results fees as well. Still it has the look of a hardship about it: I suppose we cannot clear it up. There is just one other matter. You have given us some very valuable criticisms about the new programme of the National Education Board for the examination of teachers and of students of training colleges, but, let me ask you, comparing the new programme with the old, which would you prefer?—The new programme certainly, as a whole, and on its merits.

25519. The Commissioners of National Education, as I think you know, took considerable pains to ascertain the view of the heads of the training colleges and of other persons interested in this matter, before they drew up this new programme: did they not?—Yes, your Grace.

25520. May I ask you then did you, when you were consulted on the new programme, make the suggestions that you are making now?—I thought that that question might come up, and I took some pains to see where the difference lay. We made suggestions, but of course they were only suggestions, and we were not finally consulted as to the programme.

25521. I take it that this is how the case stands: from the practical working out of the programme you have come to see these defects that you have told us about, and it is quite possible that the National Education Board itself did not foresee all the consequences that you say have resulted in practice; you did not foresee them, and perhaps some of us did not foresee them either?—Yes.

25522. My reason for asking these questions is that in an official report since published we were told:—"The Commissioners' new programme for teachers has been favourably received by the colleges, and all the Queen's Scholars who have entered this year for a two years' course are now studying according to the new programme?—That is so; we were very much pleased with the new programme as a whole.

25523. But you have found out in the course of actual working that there are some drawbacks?—I don't wish to convey either that all the suggestions we made were adopted, or that the non-adoption of them has led to this difficulty. There was mismanagement for instance.

25524. In the old programme, geometry and mensuration formed a combined subject, failure in which combined subject would be fatal to the chance of the candidate passing?—That is so.

35525. But if a candidate got sufficient marks in geometry to amount to 20 per cent of the whole number assigned to both geometry and memorization combined, then the candidate would pass.—That is so.

25536. And this, even if he answered nothing in reprobation?—Yes.

25337. But under the new programme, as it at present stands, he must get 20 per cent. of the marks assigned to geometry, and also 50 per cent. of those assigned to mensuration, failure to secure both these percentages being fatal to him!—That is so

35538. In reference to drawing, you advocate the making of it compulsory?—Yea.

25329 You say that elementary sciences also should be made compulsory, but you recommend this to be done only as soon as certain preliminaries have been arranged of drawing you say that it ought to be made compulsory apparently at once: you intended to make that distinction!—Yes, I did.

25530. And do you think that drawing can be made compulsory without waiting for preliminary arrangements? If so, who is to teach it?—I thought of that in drawing up my suggestions; it would depend on the way in which the Commissioners expected the drawing to be done at first; anything of that kind introduced for the first time should be treated very gently.

25531. To use your own word, treated symptomatically?—Yes. There is a saying, which is a very old one, I find in a report of one of the inspectors of Kildare place in 1835, that everybody who can be taught to write can be taught to draw.

25332. We were told yesterday by a person of a good deal of experience that anyone who is fit to be a teacher at all is really capable of teaching drawing for elementary purposes;—I think that is the case for elementary purposes.

25538. Of course, it could not be introduced in the higher classes without some steps being taken to secure the competence of the teachers; don't you think it would be advisable all round that the teachers should not be, as it were, left loose on this subject of drawing without some means being first taken to enable them to qualify themselves?—I think that would be advisable.

25534: You are aware that the way some teachers at present teach is, according to the information before us, is that they simply give out a number of copies to the children, and set the children to copy those,—that sort of thing might go on to a large extent if the subject were made compulsory; hence I think it would be well, and I trust you will agree with me, that, in the first instance, something should be done to show them how to teach.—Certainly, I do.

25630. Have you thought how that could be done? —I have read the different evidence given. I think there are a great many ways in which it could be done; first of all, a very simple treatise on the subject would be a very great help to start with.

36584. It would be better than nothing!—Yes, secondly, very simple requirements laid down clearly, with definite instructions to the inspectors what they are to ask for; then, of course, there are all these valuable suggestions about gathering teachers together for lectures—these are most difficult.

25537. Don't you think it would be well to instruct the inspectors in the beginning that what they had to look to was not so much the drawing done by the pupils as the method of teaching adopted by the teachers?—That would be most important. *

25538. And in that way an inspector observing a defect could give some useful suggestions to the teacher!—Certainly.

25039. School gardens you spoke of with approval. I think you spoke of the special difficulty of schools in towns—that they cannot always have gardens!—I would be more difficult for them.

25540. Someone suggested to us that window gar-

dancing could be introduced!—It could; we have it at Kildare-place, in spite of a chimney that floods us with smoke.

25541. So that in places where a school garden was not available, some use could be made of a window garden?—Yes.

25742 And I believe that even school gardening can be worked out on a very small plot of ground!—Certainly.

25543. I don't know whether you read the evidence that we had here about the Englishery school?—No; I did not.

25544. As regards agriculture in the fall series of the word, you don't contemplate, I suppose, that the National Education Board should undertake to teach boys how to farm?—No: I do not.

25545. Any more than we should teach boys in towns how to become carpenters, or tailors, or shoemakers?—No.

23545. But suppose you consider that the scientific principles should be taught that underlie agricultural operations?—These would be most important.

25347. And that, as far as possible, experiments in connection with these principles should come in!—I don't see how these could come into ordinary schools myself; but if made possible, they would be very valuable.

25548. But supposing that some simple experiments could be made?—Yes.

2554B. We have had suggestions about the forming of collections of natural objects; what do you think of that?—I think it ought to be encouraged in every school.

25550. Especially if these collections were made by the parrots themselves. 1—Yes.

25651. It was suggested that it would be a useful thing to introduce some system of experiments, perhaps, in connection with gardening, with a view of getting the notion out of the minds of a large section of the population of this country the idea that people are to go on doing certain things simply because their fathers and grandfathers had done them before them!—
Yes.

25552. I understand that this idea unfortunately prevails to a large extent in some of the agricultural districts of Ireland?—Yes.

23553. Don't you think that introducing some little experimental work in connection with gardening would do something to eradicate that idea?—I think so.

25554—And these experiments could easily be made in connection with horticulture!—Possibly.

23555. Here again, your object in dealing with horticulture would not be to train the boys to become gardeners as a profession?—Certainly not.

35556. Has it ever occurred to you as a means of getting over the difficulty of the cost of the instruction in woodwork, that a system of centres might be conveniently adopted? Let us suppose that in this neighbourhood, for instance, where we are now met, some convenient place could be found, not far from your Kilburn-place schools, not far from the Rev. Mr. Robinson's new school in Westland-row, and not far from Father Murphy's new school in Brunswick-street, and that, for a couple of hours, once a week, that centre might be used by the pupils from one or other of these different schools—would not a plan like that help us in getting over the cost of providing the necessary plant for a number of schools; it is a plan that we found working very well in London?—I know it does, and I don't see any reason why it should not work here, I have often heard it discussed, and the question argued at different educational meetings, but it has not come to anything.

25567. You don't think it would interfere in any way with the denominational distinction of our Dharma schools?—I don't see any reason why it should.

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Nov. 12, 1857.
Rev. H.
Kingsmill.
Bristol, W. S.

Dublin.

June 11, 1897.

Rev. R.
Kempall
Mans. H.A.

25568. You made some reference to the difficulties of the new programme of the National Education Board as experienced by the students of your college this year at the examinations, but I was glad to hear you say that certain important concessions were afterwards made by the National Education Board, particularly glad for I was not there myself, so that even if they were not sympathetic on the occasion I should not have cause for any of the blame!—The Commissioners always are very sympathetic.

25569. Mr. RANDELL.—In reference to your criticism of the new programme, I should like to ask you whether some of the subjects that have been introduced into it meet with your approval; do you approve of reading being included as one of the subjects that carry marks?—Certainly.

25560. You are aware that was not the case formerly?—Yes.

25561. In the same way penmanship; do you think that ought to count?—It certainly ought to count.

25562. You are aware it does count in the English programme?—I know it does.

25563. As regards these two subjects, I wish to point out that making them carry marks is certainly an advantage to the teachers!—Yes, we take no objection to that. When I said seventeen subjects I summed up all that were there.

25564. Yes, but perhaps it gives a false impression, two of those subjects not being very difficult. Then there are marks for English composition?—I strongly approve of it.

25565. I suppose you think the course of English literature is better than the old subject "lesson books"?—There is no question about that.

25566. Also did giving marks for a practical test in teaching is an improvement?—It is, perhaps, the best feature in the whole programme.

25567. I take it that what you object to is that so many of the mathematical subjects are compulsory—algebra, geometry, and mensuration!—That and the fact that arithmetic is required in the second year; we, I think, were rather in favour of the mathematical programme as it is, provided arithmetic might be omitted the second year.

25568. Do I understand that the suggestion you would make is that algebra, geometry, and mensuration should not be compulsory subjects?—Yes, I think that would be a very great relief.

25569. What do you think of book-keeping, would you make that optional too?—Book-keeping is a subject of which I know little, but it seems to me unwise to make it compulsory.

25570. Then we come to the question of geography and agriculture; geography does not occur among the compulsory subjects in England; do you think it might be dropped?—After the first year I think the new programme does allow us to drop it, and we like that very much, but I should not like to drop it altogether.

25571. In order to reduce the seventeen you must drop some subject?—It is not necessary, I think, to drop a subject altogether; it is one thing to drop a subject and another to make a student fail if he gets under 20 per cent marks.

25572. I mean to make it cease to be compulsory!—Could there not be another plan, which I think is the English plan—take the subject of drawing, which we approve of being made compulsory, let it be a requirement that candidates shall get 50 per cent. in the whole examination, yet, although they may fall below 20 per cent in drawing, or in some difficult subject, still let them go through their examination as a whole, that is the English system.

25573. You compel them to take it up, but you do not make failure in it entail loss of the examination?—Yes.

25574. Is that what you would suggest as regards these mathematical subjects?—Yes.

25575. As regards agriculture, would you still have it a compulsory subject or omit it altogether?—I should be sorry to see it dropped, I would like the method of examination altered.

25576. Then I take it your idea is to make a failure in only a certain number of subjects fatal?—That is my view.

25577. That applied, I suppose, to the examination when your students are leaving college, or would it also apply to the entrance examination?—Not to the entrance, for of course when candidates are entering up to the college it is a fair time to reject those who are not qualified, but when they have been admitted after an entrance examination which is a real test, nobody has much right to complain of failures; and I don't think we should complain except for the standing figure of ten failures last year as compared with fourteen in all the previous years.

25578. I take it that so long as geography is compulsory in schools, it would be right to exact the minimum knowledge of it from every teacher who gets classification, therefore it must remain in column I?—Yes.

25579. I think I am right in saying that some of the subjects in the English Training College course, include two of our subjects—does not "English" in the English code mean what we call grammar and literature combined?—English composition is a separate subject.

25580. In the first year's syllabus "English" includes "general knowledge of the history and grammatical structure of the language," and also "an intelligent acquaintance with the language, style and subject matter of a 'Selection from Tennyson,' and Addison's *Star* Roger de Coverley." That would cover grammar and literature. In the second year it is "an intelligent acquaintance with the language, style and subject matter of Tennyson's 'The Coming of Arthur' and 'The Passing of Arthur,' &c., &c."—that would also include grammar and literature?—It ought to be made to do so.

25581. MONTAGNE MOLLER.—I find in your prospectus that you have a professor of experimental physics in the training college in Kildare-place?—That subject has disappeared with the new programme.

25582. But you have a professor?—He has disappeared also.

25583. So the new programme has not only killed science but killed the professor. The new programme came in and experimental physics went out, and with experimental physics the professor disappeared?—Yes.

25584. You are in favour of teaching the elements of physical science in primary schools?—Yes.

25585. Would you agree with me in saying that the teaching should be most simple and elementary?—Oh, certainly.

25586. That is to say, it should consist very largely of explanation of common things, and of simple scientific principles, and be illustrated with objects and with simple experiments?—Experiments done by the pupils is a very important part of it I should think.

25587. Up to the present, any programme of physical science under which it could be taught in the schools, sets forth a long list and rather a high sounding list of great branches of physical science. I find mechanics, hydrostatics, pneumatics, light, sound, heat and the steam engine, physical geography, magnetism and electricity, inorganic chemistry. Now does it seem to you that that is the sort of programme under which such a course as you think desirable in primary schools could be most effectively taught?—Certainly not, but Course H in the English code seems to me a workable programme.

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Rev. H.
Longwell
Mayor, &c.

25589. Would you agree with me then in saying that a much better method would be to draw up an outline of the common things to be explained, and the simple principles of science that are to be illustrated, and set that before the teachers as what they are to teach in the primary schools?—That, I think, would be the right way to do it.

25590. Provided always that that syllabus would be a sympathetic syllabus?—Yes.

25591. Now in order to introduce the subject of physical science into primary schools, you say certain preliminaries would be necessary, and one of these preliminaries would, I suppose, be that these subjects should be taught in the training colleges?—Yes.

25592. Which might lead to, perhaps, a revival of the professors of that subject?—Would you think also that the course taught in the training college should be framed with a view to what the teachers have to teach afterwards in the schools?—Certainly, but I don't know that it should be limited to it.

25593. But you agree it should be framed with a view to that. You think it ought not to be strictly limited to it?—The teacher wants to know something more than he has to teach.

25594. A teacher should know his subject more thoroughly and widely than a pupil is expected to know it?—Yes.

25595. And therefore, while the course taught in the training colleges should be framed with a view to the programme of the primary schools, it should be wider and deeper?—Yes.

25596. And the course should be compulsory?—Yes.

25597. Because if it is not compulsory in the training colleges, it cannot be possible in the primary schools?—Certainly, it should be compulsory in the training colleges.

25598. Mr. MOLLER.—I notice in the last published report of the Commissioners that you had thirty-four men and sixty-nine women in the training season of 1885-86. How can you account for the disproportion between men and women?—It is that you had not accommodation for the men?—There are two ways of accounting for it—one is that we have always until this year found a difficulty in getting men. We get sufficient male candidates this year for the first time. We had qualified male candidates, twice as many as we required. We always had enough male candidates for the July examinations, that is to say, they came up, but they did not come up sufficiently well prepared to pass.

25599. What course do you adopt in order to get candidates?—We have to advertise in all the papers and circulate our report sometimes. We have addressed all the clergy of our diocese.

25600. Do the Board's inspectors, upwards of sixty in number, co-operate in securing candidates for your college as they do for Marlborough-street?—Certainly not, the officials in many cases—this relates rather to former years, when our work was not so well known—discouraged students from coming to Kildare-place, that has now disappeared, and I am glad to say the contrary is now just as often the case.

25601. Most Rev. Dr. WALSH.—They have become more sympathetic?—More sympathetic.

25602. Mr. MOLLER.—In connection with Marlborough-street College the inspectors are called upon to fill up a form expressing an opinion of the candidates; is there any form similar to that in operation in the interests of your college or any other college except Marlborough-street?—None that I know of.

25603. So that in that respect, although the colleges are *ex-æquo* in an equality, there is an advantage of one college over the others?—Certainly.

25604. And that leads to the necessity of extensive advertising on your part, and communication with the clergy throughout the country, with a view to securing candidates?—Yes.

25605. Looking to your College staff, as published in

the last report of the Commissioners, I don't observe any training assistants, have you such an office?—No, we have no training assistants, so-called. We have our master of method, who is master of the boys' school, and then our mistress of the girls' school and infant school work in connection with him, and in addition we have a lady superintendent, who also works in connection with him—they assist in training.

25606. They have all that in Marlborough-street College, and over and above that they have specialists called training assistants, who assist the students in training in the course of their studies in the evening, looking after them during the daytime in a general way. You have not got others of that kind?—We have not.

25607. There is a pretty large staff of that kind in connection with Marlborough-street College?—I believe there is.

25608. Are there any members of your professoriate pensionable by the Treasury on the termination of their course, or at any time?—Not that I know of.

25609. Has the introduction of a pension ever been thought of? I believe as a matter of fact in the case of Marlborough-street some members of the professoriate are pensionable?—So I believe.

25610. It was at one time, if I mistake not, under consideration in connection with your college, and indeed, some of the other colleges, to look after the interests of the untrained teachers now in charge of schools of a suitable age?—Yes.

25611. On your side I believe the number was 167 ascertained to be then in charge of schools who were untrained, and who by age would be regarded as fairly suitable to be brought up for improvement in methods of teaching?—It is a matter of memory with me, but I think it is about that figure.

25612. Would you advocate that course now, that was suggested some two or three years ago?—Yes, I should.

25613. The 167, if I mistake not, were persons generally suitable for training?—Yes.

25614. And training these, even in a short course, would qualify, so to say, nearly all the teachers of your schools throughout the country to rank as trained teachers?—It would.

25615. Would there be any difficulty in carrying out that system in connection with your college?—It could be done, of course it would mean extra work, and giving up vacations and things of that kind. I don't think we could be expected to do it without some additional State aid.

25616. Obviously, not without additional State aid?—It could be done, certainly.

25617. There is no intrinsic difficulty in having it carried out under the supervision of the authorities in your college?—There is none.

25618. You referred to the point that you would be glad to see inspectors visiting your college more frequently. You don't mean merely these inspectors who are officially in charge of the college?—Certainly not, we welcome their visits at all times.

25619. I understood you to mean the general body of inspectors and above all newly-appointed inspectors?—Yes.

25620. I would regard that as a matter of very great importance. They would have an opportunity of conferring with the authorities of the college, seeing the students in training, the reference libraries, the methods of teaching, the museum (such as you have in your college), and being in touch, so to say, with the work done?—We could draw their attention to any special points to which we attached importance and which had not hitherto been recognised.

25621. It would be a sort of mutual education?—Yes.

25622. As a matter of fact, in connection with the early appointment of inspectors under the National Board, that was one of the conditions of the appointment. At that time there was only one normal college, and it was a *sine qua non* that an inspector, on his

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Master, &c.

appointment, and as often as he came to Dublin subsequently, should visit that training college, confer with the professors and heads of the primary schools in connection with it, and spend some time there!—I knew it was the custom in the old Kildare-place society. In 1828–30 the inspectors had to come to the normal schools.

25623. So that harmonizes with your suggestion now!—Yes.

25624. And benefit would accrue to the inspectors from it!—And benefit would come to the college, too; we should both be helped. They might point out if our plans were difficult to apply; they might modify them from their experience. It would help us all.

25625. You have a system of measurements and areas delineated in your class rooms and study halls!—Yes.

25626. Would not that be largely taken into account in the tests applied to the students by the inspectors who examine at the end of the session!—It would come in in this way: very often in the lessons sent up to the inspectors there are allusions to measurements and practical things of that kind.

25627. And the fact of having these practically before the students would certainly be appreciated by the inspectors!—I think so; for instance, in a lesson on architecture, if 10 feet or 12 feet was mentioned, they would refer to the room, and so make it a concrete reality.

25628. I see that since the establishment of your college in 1884 up to 1896, so many as 583—close upon 600—Queen's Scholars passed through your college and obtained certificates with a view to teaching!—Yes.

25629. Now, all these, you explain, underwent examination with a view to classification at the end of their course!—Yes.

25630. Do you think so many would have applied for entrance to your college if there were not that object prominently before them at that time!—I am quite certain they would not.

25631. Are you of opinion that the time has come when that might be largely dispensed with, and you might restrict your instruction in the college mainly to the art of teaching!—That would be a very radical change. I want to see something in that direction, but I would not be prepared to say without consideration whether we were to go the whole distance or not; certainly we would be better able to do it now when training has been made compulsory. If it was merely a training place, and training was not made compulsory, a very large number of teachers would never dream of coming to it.

25632. Do you think the managers of your schools throughout the country appreciate the training diploma in the art of teaching also—a certificate that a man has obtained a first-class diploma in teaching, as distinct from proficiency in literary subjects!—That has not been made at all a sufficient reality yet. I am always glad, in recommending jessed teachers, to call attention to the grade of their diploma, and it has weight that way, but a great deal more importance should be attached to that diploma.

25633. By whom ought steps to be taken to make that diploma better known!—The first thing that is wanted is a little more connection between the Commissioners and the training college authorities. The rule is that when a student has taught well for two years the diploma is to be issued, provided two satisfactory reports have been given. In England the two satisfactory reports are sometimes issued under two years, in our case they are never issued until two years have passed, and frequently they are not issued until after a number of years—in one case it was only issued after ten years. I don't complain of that if the teaching has not been right; but for the most part we have no complaint from the Commissioners that teachers are not doing good work, so we cannot understand why the diploma do not cease. I have

sometimes applied five times without receiving any information as to why they are not issued. It happens very frequently that in the case of female teachers the girls know nothing of this block. They have been teaching for four or five years, and they get married, imagining we have no claim upon them. Then I go to the Education Office to make personal inquiries as to the cause of the delay, and there I, perhaps, find for the first time there are four or five unsatisfactory reports.

25634. That delay you complain of would, perhaps, arise from too much sympathy on the part of the Education Office with the training college—not wishing to convey the unwelcome intelligence that your candidate had failed, and waiting, perhaps, to give a further chance!—I think it has arisen largely from kindly motives, but I don't see why the fact of their failings that someone was in danger might not help that teacher to get on finally, for, naturally, from the patronage that comes to the head of a training college his communication to a teacher would have a stimulating effect.

25635. Do you think it would help you if a report was made from the office to you on these teachers, just as it is sent to the managers!—Yes, it would help us greatly.

25636. Or we might allow you to see the reports!—It would be quite enough for my purpose if we were told that such and such a teacher's report was not satisfactory.

25637. What year did you introduce the instruction in manual work? I think you called it carpentry, straight off!—It is carpentry. In 1887–88.

25638. What teacher did you employ for that!—It was a carpenter. We have a very clever carpenter, who does a great deal of work for us. He is a man quite out of the common with regard to his artistic capacities and skill as an artisan; he is a builder and contractor.

25639. In that manual instruction workroom is drawing taught to make!—No; it is mere carpentry.

25640. Now, with regard to the museum that I have often seen in your pasturing school, the pupils, I believe, collect the objects!—Yes. The master, Mr. Henley, is the guiding spirit, and the pupils bring in the specimens.

25641. Does he take them out into the country, and let them pick up anything of a special kind!—He does that occasionally.

25642. Rev. Dr. Evans.—In the earlier part of your evidence did you intend to convey that the Board of Education has no test of the ability of Queen's Scholars to teach drawing, as distinguished from their knowledge of drawing!—Yes. So far as I am aware, all that is asked of the teachers is to copy either a model or a drawing from the slab.

25643. But it is your opinion that they make no test of the abilities of the Queen's Scholars to teach drawing, as distinguished from their knowledge of drawing!—That is my opinion.

25644. Does the Board of Education make any distinction of the same kind in regard to any other subject—that is to say, has it a test of the ability of the Queen's Scholars to teach arithmetic, as distinct from the test of the knowledge of arithmetic!—I should think that the introduction of theoretical questions would tend in that direction, but more might be done all along the subjects with advantage.

25645. Is there a single case in which the Board tests the ability of the candidate to teach, as distinguished from testing the knowledge of the subject!—I don't think there is any case in which that is distinguished, but there are papers—as, for instance, the theoretical part of arithmetic—in which the ideas come in, but, as I said, not sufficiently. Of course there is inspection by the inspectors, which is the most valuable part of the system, but I take it you are questioning solely with reference to the paper work.

25646. Now, in regard to practical tests, does the

Board require Queen's Scholars to go through practical lessons in preparing schools?—Yes.

25647. Has the Board anywhere excluded drawing from these tests?—Nowhere.

25648. Therefore it does not follow that drawing is in any exceptional way at a disadvantage?—No, I did not mean to convey that it was.

25649. Then you must mean that you want to see something more done for drawing than for any other subject?—Yes, I think so, on account of the comparative absence of drawing from the schools, the subject has been neglected very largely, and if it is to be made compulsory, you require to draw the teacher's attention pointedly to the way he is to teach it.

25650. In the admission of Queen's Scholars to the training college, have you ever found any difficulty in getting candidates who were competent in drawing at that stage?—We have always found a difficulty.

25651. Have you ever rejected anyone because there seemed to be an inability to learn the subject of drawing?—No, because we had hitherto no means of testing, but I may mention that although drawing is optional in the new programme, in column 1, we have this year at Kildare-place, made it compulsory for female students, that of course, will give us an opportunity of rejecting them.

25652. I was glad to hear you are in favour of introducing elementary science into the schools, if elementary science is to be introduced into the schools, does it not follow that it must be taught in the training colleges?—Certainly.

25653. And if it follows that it must be taught in the training colleges, then the training colleges must be teaching places?—I have been careful, I hope all along, to say that the training colleges must be teaching places, teaching a subject and teaching how to teach it, there is no opposition between those positions.

25654. I agree, but we cannot ever, I suppose, hope to eliminate the teaching of subjects from the training colleges, and restrict those institutions entirely to the office of teaching how to teach?—I don't see how it is to be done. I was asked the question as to whether I would be in favour altogether of giving up the examination of teachers in connection with the training colleges for classes, and I said I could not see my way to such a radical change as that. The line of thought of your question suggested that answer.

25655. You always have a larger number of female candidates?—Yes, but we have now as many male candidates as we desire.

25656. Do the clergy throughout the country ever write to you in favour of certain candidates in whom they may be naturally interested?—Almost invariably, in that we require something of that kind from the clergymen, some testimonial as to character.

25657. Is your training college at any disadvantage because you had not some sort of list of eligible candidates from the inspectors throughout Ireland?—I think there is a certain disadvantage, the inspectors are the officers of the State, and the colleges are colleges of the State, and I think the inspectors ought to be absolutely impartial as any rule.

25658. And you would be in favour in the case of a denominational training college, of having the same proviso carried out that was in existence in the undenominational training colleges, I don't wish to be understood as moving in the matter, because we seem to be pretty right about the male candidates now?—Perhaps if I was asked the question five or ten years ago, I would say yes, and as a matter of equity, I think it would be right, but I don't wish to be understood now as complaining.

25659. Rev. Dr. WILSON.—You prefer, I think I have heard you say, the new programme to the old one?—Yes.

25660. Were you under the old programme from 1884 to 1896?—Yes.

25661. And during that time you had only fourteen failures out of some thousand students?—Yes.

25662. In 1897 you have had ten failures out of 115 students?—Yes.

25663. How is it you failed more on your own preferred programme than on the old one?—That question is very easily answered, but it is rather a long subject to go into, the mathematical papers this time, in which the chief failures occurred, were supposed to be given to a second class, and they were really first class papers; thus we are prepared to prove; it is a very simple proof and does not involve any knowledge of mathematics, because questions on the B now paper were, in many cases, identical with questions on the old A paper, and questions on the O paper were identical with the old B, so that there was an increase of the standard in mathematics, for which we were not prepared, and could not be prepared.

25664. So that such a large proportion of failures may not occur again, what remedy would you suggest?—There is one practical remedy, that is a return to the old system of setting papers in former years. In former years half the questions were easy and half the questions were difficult; this year for the first time, all the questions were made of equal difficulty. The old plan seemed to me the proper one; for a student who was weak upon a subject, would take up the easy questions and get low marks, it is true, but still qualifying marks. The removal of that condition has been disastrous.

25665. You complain that our inspectors have not visited your training colleges often enough?—I don't make that particular complaint; it is a suggestion for the improvement of our work.

25666. What practical benefit would you expect to derive from their more frequent visits?—The advantage which we would derive would be a knowledge of how our teachers were working in their districts. On the occasion of the July examinations, the Board and certain inspectors to superintend the examinations, and it is always a great pleasure to me to hear how the teachers from Kildare-place are doing. That would be one of the advantages of the colleges being in touch with the inspectors. If we found they were falling in certain lines we should consider the question, and try to do all we could to anticipate such failure.

25667. Is not the National system of education an undenominational system?—Theoretically.

25668. And is not yours a denominational college?—Yes.

25669. What claim have you on the visits of an inspector at all?—I am not making any claim.

25670. Then if we were consistent as a Board, we would not send them to you?—I suppose if you were consistent you would not have a denominational college.

25671. Dr. Evans has stated you should get the same advantage as any other college, I don't think so, so long as your Church maintains a denominational college, I don't think you have the same claim on our inspectors as an undenominational college, what have you to say to that?—I say the Government appears to think otherwise. In Mr. Balfour's letter, the duty of putting colleges on an equality was fully recognised, and we could take our stand upon the way in which the Government administers the system apart from any theories, but I should be sorry that my remark in reference to the inspectors was spoken of as a claim. I suppose it would lay a great deal more trouble on me as an individual if they did so. I should be glad to see them, but it would take up a good deal of my time, nevertheless for the good of the education of the country, I would welcome their presence, the connection between our college and Drumcondra and Bagginistown with the inspectors, would greatly help education in the country.

25672. Most Rev. Dr. WATSON.—You wish to have

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Kingsmill.
Kildare, 30.5.

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Rev. H.
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Moore, Esq.

some communication from the National Board in reference to the teaching of your former pupils after they have gone out as teachers?—In cases where they are not supposed to be teaching well.

25673. Would it meet your views if there was a report each year, for a certain number of years, stating whether or not the teacher's work for the year in question was satisfactory, in the sense in which the Board has to satisfy itself that the work is satisfactory before accepting it for the granting of the training diploma to the teacher, or for the payment of the bonus to the training college?—Certainly.

25674. There must be two years' satisfactory teaching in order to entitle the teacher to the diploma and the college to the bonus, a report coming to you for a certain number of years stating whether the year's work of the teacher was in that sense satisfactory, would satisfy you?—Yes.

25675. You seem to think it is a hardship that there are so many subjects in our programme, failure in any of which would disqualify a student or a teacher for passing; would you approve of an arrangement in

which failure to pass in certain subjects could be made up for by some superior merit in others?—Yes.

25676. So that if a student failed in one or two subjects, a certain amount of failure could be made up for by a certain amount of superior answering in others?—Yes.

25677. I find that since the introduction of the new programme experimental physics has disappeared from Kildare-places, as it has disappeared from other training colleges; in Kildare-place what subject has been taken up in place of it?—The men take trigonometry.

25678. Whatever may be wrong in this, how is the defect to be ascribed to the new programme, the new programme gives an option between those two subjects, and gives precisely the same number of marks to each; why did the people who had previously been teaching experimental physics give it up and take to teaching trigonometry?—The science course huddown here is wholly and entirely out of the question.

25679. So that if they showed their option of taking experimental science instead of trigonometry, they should do so at a considerable risk of their failing?—Failure would be absolutely certain.

MR. ALFRED PURSER, Head Inspector of National Schools, further examined.

25682. CHAIRMAN.—You are one of the Head Inspectors of National schools?—Yes.

25683. You were examined at considerable length on the subject of our inquiry?—Yes.

25684. On looking at your paper I see that you give some general suggestions and also some special suggestions about manual training. First of all, with regard to manual training, is it your opinion that it would be well to require all colleges to provide facilities for the Queen's Scholars to obtain practical knowledge of hand and eye training?—Yes, I think it would. I think in the practising schools the Queen's Scholars should have an opportunity of seeing kindergarten carried on, in all the practising schools, not only those for women, but for men also.

25685. Further, you would encourage its introduction into all schools in the country, outside the ordinary school hours, by a grant of additional salary?—Yes.

25686. Does that apply only to such things as Sloyd and woodwork, or does it apply to cardboard work?—It would apply to cardboard work as well.

25687. You think that that could not be introduced into the ordinary school hours?—Not very conveniently, I think; if we have only one or two teachers in a school it would be very hard to introduce it.

25688. You are not in favour of tying teachers strictly down to the programme?—No, I would lay down general principles they were to follow, and let them draw up their own programme, which, of course, should be submitted and approved of.

25689. What is your opinion about garden plots? I think there is very often land round a school that might be utilised to some extent for that purpose. The ground in the first instance was probably given for a playground, and therefore they are not allowed to use it for any other purpose, but certain parts of the ground might yet be used for garden beds—it would not be agriculture, but floriculture, or a little horticulture.

25690. You are, I think, in favour of encouraging drill and calisthenics?—Yes, I do not see why they should not be good for a school.

25691. Most Rev. Dr. WATSON.—Are you in favour of the introduction of elementary science teaching in the schools?—Yes.

25692. What should be the character of the science teaching?—It should be very elementary indeed.

25693. The question has been raised frequently whether it should be the teaching of any one or more of the branches of physical science, or rather a treatment of the general principles of science?—I think it

should be the explanation of the common phenomena which children observe every day of their lives.

25694. That is, it should be of a general rather than a particular character; you are aware that one result of the introduction of the new programme has been that the teaching of physical science has been dropped altogether in the training colleges?—Yes, practically it has.

25695. Do you not look upon that as an unfortunate result?—Most unfortunate.

25696. What remedy do you suggest?—I think it should be a compulsory subject.

25697. But our programme has been already criticised on the ground that we have too many compulsory subjects?—You should leave out some, I suppose.

25698. Then which subjects should we leave out?—So many are optional in one column and obligatory in another, it is hard to say; and some of the subjects that are put down as separate are not really so—reading, penmanship, spelling, English grammar, and English composition should be grouped.

25699. And you would make failure in the whole group, not failure in each individual branch, a disqualification?—Yes.

25700. Do you think it is fair to require a student to pass in both geometry and mensuration?—I am not much of a science scholar, but I don't think it is; I think the two should be combined and the geometry should be less Euclid and more practical geometry.

25701. What do you think of the suggestion you have just heard me make to Mr. Kingsmill Moore, that something of failure in one subject might be made up for by special merit in others?—Yes, I think failure in some subjects should not disqualify.

25702. Then the subject would cease to be an obligatory subject; a student would think it foolish to take up a subject which it is not necessary for him to pass in?—I would not quite agree with you; if you make it obligatory to teach it in the college he must take it up, you oblige him to attend lectures.

25703. But he may not study it?—That is the duty of the college to see he does.

25704. Messenger McCABE.—It might help him to obtain the necessary percentage on his total marks in passing. There might be a rule that in order to pass he should pass in a certain number of specified subjects, and his total marks should amount to a certain minimum, and these subjects in which he might be allowed to fail would help him to count towards the minimum?—Yes.

25705. The number of subjects which he presents is taken into account—he must obtain a certain mark—

series of marks in order to pass, but besides that he must actually pass in a certain number of specified subjects, now, the subjects in which it is not absolutely necessary he should pass will still be most useful to him to obtain the necessary minimum of marks?—Yes.

25706. Most Rev. Dr. WALSH.—You know the principle that was adopted this year by the Commissioners, out of consideration for candidates working for the first time under the new programme, that subjects which in theory were obligatory were not finally treated as obligatory—I did not know that.

25707. That was the case certainly in drawing?—I was not informed of anything of that sort.

25708. Would it be a desirable permanent arrangement in reference to a subject such as drawing?—I don't see any objection to the failing in a couple of subjects if you have a very large number.

25709. At all events it would be a safeguard to require that a certain amount of failure in some subjects should be made up for by superior excellence in others?—You make that up by requiring them to get a certain percentage.

25710. What I wished to ascertain is whether you would approve of that being done; I take it that you would?—Yes.

25711. I observe that in the programme of the English Education Department there is a sort of option given between languages and science, but the arrangements are such that 100 marks are given to the languages and 75 marks are given to the science; do you think a system of that sort would work advantageously in this country. What would the result of it be as regards the subjects taken up?—They would still take up science here.

25712. But they have not taken it up when it came into conflict with trigonometry?—Trigonometry is a science, too.

25713. I am speaking of physical science?—Trigonometry is more easily made up, and a language would take a long time to make up, and most candidates would know nothing of language before coming up.

25714. Do you not think that the examination system largely determines the choice of subjects taken up in the colleges?—Of course it does.

25715. The choice is determined by the requirements of the examination programme rather than by any consideration of the utility of these subjects in school work afterwards?—It is decidedly made entirely by the examination, they must pass their students or they would lose part of their grant and the teachers won't get classification.

25716. Mr. RAMESON.—If manual work were introduced into a school where there is only one teacher, would it be possible for him to give instruction in it?—During school hours it would be very difficult.

25717. Would you be in favour of some modification of the programme by which fewer classes would be recognised in small schools?—Certainly.

25718. That would give a teacher more time for extra subjects?—I would not care for him to have extra subjects during school hours at all; he would have quite enough to do to teach three or four classes.

25719. Would you consider drawing an extra subject, to be taught outside school hours?—No, I would make it an ordinary subject, to be taught in every school.

25720. Cardboard work or woodwork?—That is an extra subject.

25721. Cookery?—I would be inclined only to teach it in the highest class, to girls going out in a year or so. I would be inclined to make it partly optional with needlework, take some time from the needlework for cookery.

25722. You would have five hours a week, and it would be given either to needlework or cookery?—I would say three hours for needlework and three hours for cookery.

25723. But a cookery lesson cannot be less than

two hours?—Oh, yes, I think it can; a practical lesson is two hours, and then there is a theoretical lesson, one lesson a week for three hours.

25724. Would you be in favour of Saturday being used as a school day?—Certainly, if you can get the children to come in.

25725. Would you recognise it as a school day?—Yes, I see no objection if the roll was called the same as usual.

25726. Most Rev. Dr. WALSH.—But remember that the attendance would be lower, and that would be hard on the teachers?—Yes, I say if you get the children to attend.

25727. Mr. RAMESON.—From your experience do you think the attendance would be lower?—Certainly, because the people have got out of the habit of attending on Saturdays.

25728. What do the children do on Saturdays?—Nothing at all but playing about.

25729. Why should they not go to school?—The teachers don't go to school—they like to have the day, too.

25730. Do you think the standard of the entrance examination for the training college should be raised?—I think it should.

25731. That would mean that the standard of education all through the country would be raised?—Certainly, I think in certain things you ask perhaps too much, but in the way of English you ought to ask more.

25732. You mean English literature and grammar?—I mean composition, too, and reading.

25733. You approve of the change that has been made in the last couple of years in that direction?—I do, but I think it should go further; I think you ask too little.

25734. What would you leave out in case you brought in more English?—That would be hard to say straight off.

25735. You heard the criticism upon our programme that the students at the end of the second year had to take up seventeen subjects?—Yes, that includes five subjects that I would put down as one under the head of English, for instance.

25736. Are there subjects, now compulsory, that you would make optional; what would you think of making algebra optional?—No, I would make it obligatory.

25737. Do you see your way to making any of the seventeen subjects optional?—I think bookkeeping might be optional, but I would not mind their failing in a certain number of subjects. I would insist on their passing in certain subjects and allow them to fail in others.

25738. Most Rev. Dr. WALSH.—Something like the English plan?—And the Continental plan, too.

25739. Mr. RAMESON.—Do you think the number of workmistresses should be increased?—It would depend upon whether you would amalgamate the small schools or not.

25740. Assuming no change is made, and workmistresses are only employed where there is a male teacher and a certain number of girls, would you be in favour of reducing the average number of girls that would justify the employment of a workmistress?—I don't think so, I think you give liberal terms as present.

25741. Now it is an average of twenty, but that includes infants and first class?—Yes, practically there may be only five or six children learning.

25742. Do you think a workmistress should be all day long in the school?—I think it should be a great advantage, if you altered the requirements; instead of saying twenty girls on an average, if you said there should be at least ten or twelve girls for learning needlework, it sometimes happens that though there may be an average of twenty girls there may not be more than four or five learning and in another school

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where there is an average of twenty there may be ten or twelve to learn.

25743. Do you think a workmistress should be employed four hours instead of two?—No, I think two is long enough.

25744. Would it be desirable that a workmistress should have a general supervision over the girls of the school?—I think not.

25745. Is it not more desirable that a woman should look after girls than a man?—Not at all. A father is just as capable of looking after his daughters as the mother. There are plenty of parts of the country abroad where there is no female teacher employed.

25747. Do you think more time could be obtained for drawing and extra subjects if the attendance were more regular in the mornings?—Yes, certainly, there is a great deal of time lost in the morning. Practically they need not begin until ten or eleven in an ordinary school. I suggest the roll should be called within ten minutes of the school opening.

25748. Manager Mr. MONTGOMERY.—That suggestion of yours would help to make the pupils more punctual in their duties in life afterwards?—Yes, it would give you at least half an hour additional school time.

25749. And it would practically add to the time available for school work?—Yes.

25750. Would they come punctually if it were made compulsory in that way?—As soon as you have compulsory attendance by law, they will have to come.

25751. At present the roll is not called until an hour after the school opens?—Three quarters of an hour; it has not to be finished until an hour.

25752. Do you think that the practical effect of that has been to lead the students to think that they are quite in time if they come an hour late?—Yes.

25753. But if the roll was called within ten minutes they would learn to be present within the ten minutes?—Yes, it would be the teacher's interest to make them come.

25754. Mr. MONTGOMERY.—Is not this regulation "not later than eleven o'clock"?—Yes.

25755. But if the school opened for secular work at half-past nine is it not in the power of the manager to give the teacher directions to call the roll at that time?—I don't know whether it is or not; if the teacher refused I don't know what action you could take or would take.

25756. I should think the manager would take rapid action?—No, I think the manager would take no action nowadays.

25757. You are in favour of abolishing small schools with only one teacher, wherever possible, without inflicting hardship upon the school-going children?—Yes.

25758. How could you carry that out without inflicting hardship on the school-going children, we have about 4,000 comparatively small schools?—You have a great many of those that are male and female schools side by side, and it would inflict no hardship if these were put into one school.

25759. What about the feeling of the managers, these are managers and inspectors who entertain the opinion that the sexes should be taught separately?—I am only giving you my opinion.

25760. What would you do with the empty school-house?—In a great many cases there would not be an empty school-house, one would be a class room and the other the main room.

25761. Even at present where there is only one teacher, is there any practical difficulty in his grouping classes together, is there anything to prevent him giving, say, a geography lesson to third, fourth, and fifth classes for that matter?—Oh, yes.

25762. CHAIRMAN.—Would not the suggestion you made about amalgamating the small schools be one way of providing a class room for manual work?—It would, certainly.

25763. Mr. MONTGOMERY.—Would it not also have the effect of abolishing a number of schools under disgra-

men who are anxious to have the supervision of their own work?—Not to a very large extent.

25764. There are about 4,000 of these schools?—Yes, but a great many of them are schools for separate sexes: in a great many cases, I think, they can scarcely keep up their numbers.

25765. Are you in favour of this distinction, a No. 1 pass and a No. 2 pass in connection with the results examination, when the results system started there was simply a common mark to indicate a pass, instead of as no more money is paid for a No. 1 pass than for a No. 2, is there any practical value in keeping up such a thing?—I think there is, in getting at the general state of the school. If the sheet shows No. 1 passes and failures, you might come to the conclusion that the work done was very good, whereas No. 2 passes and failures would show the work is bad.

25766. Most Rev. Dr. WALSH.—In the returns published in the Board's reports there is no distinction made between the two kinds of passes?—No, and I have always come to the conclusion that these returns are useless.

25767. Mr. MONTGOMERY.—Is it a fact that some of the inspectors cannot be induced to give No. 1 passes under any circumstances?—I have not met one; I think there are too many No. 1 passes given as a rule.

25768. Would you concur with a former witness that these results statistics are practically not worth the paper on which they are written?—I don't know what you mean by the results statistics.

25769. The mere earning of Nos. 1 and 2 passes, and being guided by these as regards the value of the schools?—Did anyone say that?

25770. Would you concur with anyone who did express an opinion to that effect?—No.

25771. Most Rev. Dr. WALSH.—But take the case as it exists in fact: the No. 1 and No. 2 passes are bulked together, and not even the existence of a distinction between two kinds of passes is indicated?—If you take a summary of that sort, then I consider it is worthless.

25772. Mr. MONTGOMERY.—Was it not the practice in former years, prior to the last fifteen or twenty, that Saturdays were days of instruction in our primary schools?—A certain number of the children used to go to school on Saturdays.

25773. To work up special subjects?—Yes.

25774. Then the rolls were marked on those days but the Saturday attendance of pupils were not counted in the average attendance of the schools?—That is done to a small extent still.

25775. Rev. Dr. DE EVANS.—I understand, Mr. Purser, that you would be in favour of only employing trained teachers?—Yes.

25776. How long do you think would it take to bring us to that point that only trained teachers should be employed?—That a very short time I think if you abolish unnecessary small schools.

25777. You would not discontinue a school at present whose teacher was untrained?—Oh, no.

25778. You would let it work somehow as a natural termination?—Yes.

25779. How long do you think would it take, would it take fifteen years?—To entirely do away with untrained teachers would at least take fifteen years unless you discontinued the present accounts, which I would not be inclined to do, and in the case of any teacher who had passed a certain age or given a certain number of years service, I would grant exemption. The younger teachers, I think, might be compelled even still to go on.

25780. We have a large number of teachers that are untrained and have not a certificate for drawing, would you be in favour of introducing drawing into their schools?—Yes.

25781. And how would it be taught?—They would have to teach it by putting models before the children and making them draw, the same as they teach them to write.

25782. And when you came to examine a school, if you found the drawing satisfactorily done you would be in favour of a payment to the teachers who produced these results?—I am not in favour of these results payments at all.

25783. Until we get rid of them which I hope is coming?—I would pay the teacher a fixed salary for doing his work, and that should be part of his work to teach drawing as well as he could.

25784. You think the entrance examination should be raised to a higher grade in the training colleges?—Yes.

25785. You would do that by making a corresponding increase in difficulty in the members' examination?—Yes.

25786. Would you bring that to bear at the end of the monitor's work, or from year to year throughout the monitorial course?—Each year from year to year.

25787. Because it is very important, I think, to bring them up to the higher grade from year to year?—That is what I meant.

25788. You would do the same thing with regard to pupil teachers?—Certainly, except that a pupil teacher would in the one year have to make up the full standard, because at the end of the first year they are eligible for admission to the college, you would have to raise the standard of admission as a pupil teacher; no person should become a pupil teacher, as easily as he does at present; the standard for that would have to be slightly raised.

25789. You would also be in favour of increasing the staff in training colleges?—Yes.

25790. Could you indicate how?—You should appoint more professors. Take the Board's own college in Marlborough-street—there are but four professors, and two of them also enjoy the title, I don't know whether it is anything more, of principals.

The number of students in training in that college has gone up from 350 to 360, yet there is no corresponding change in the staff.

25791. Is it not as easy to lecture fifty as to lecture twenty?—Not as efficiently; you cannot give the same attention to each. At present each of them will have sixty-five to lecture and teach which, I think, is altogether too many. The Commissioners and managers all complain that one teacher for every thirty-five is not enough to give.

25792. You would be in favour of laying more stress at the examination on ability to teach and testing that more?—Yes.

25793. How could you do that?—Instead of asking questions that merely involve mere memory work, the questions the teacher should get should be rather how they would teach certain things, give them a problem in arithmetic, the question should not be "work out the answer to that," but "show us how you would teach a class that."

25794. Rev. Dr. WILSON.—Do you recommend that female teachers should refrain on being married?—Yes.

25795. That has never been our rule, I hope you would not propose a rigid enforcement of that new regulation?—It would be a very desirable thing; it is a general rule in Dublin, I think, at least among Roman Catholic teachers; there is no fixed rule.

25796. Most Rev. Dr. WALSH.—There is no rule, certainly?—No, but there is a general understanding in Dublin that if a female teacher gets married she leaves her school.

25797. Rev. Dr. WILSON.—I would not be a party to enforcing it?—A married woman is much better employed rearing her family.

25798. If she has no family she would be all the better to be employed?—That would be a very exceptional case.

Mr. SAMUEL E. STRONG, A.M., Head Inspector of National Schools, further examined.

Mr. SAMUEL E. Strong, A.M.

25799. CHAIRMAN.—You are one of the head inspectors of National Schools, and you have been already examined?—Yes, my lord, at the beginning of the inquiry.

25800. I see by your memorandum that you are in favour of shortening the hours in infant schools and in junior classes in other schools; is that with a view of introducing some form of hand and eye training more generally?—That is to give the opportunity to the teacher of teaching the senior classes afterwards, at present the infant and first and second classes in the school can learn quite as much in three hours as children of that age are capable of taking in.

25801. You think that, irrespective of any question of introducing hand and eye training, it would be in itself an advantage to shorten the hours of the junior classes?—Yes.

25802. And it would be no disadvantage if it was decided that hand and eye training in some form should be introduced, that these hours should be shortened for the junior classes?—Yes, they could do the hand and eye training as well as their ordinary work within the three hours without any detriment.

25803. Do you think that the hours of attendance in the senior classes are long enough at present?—If I shortened the hours of the junior classes I would lengthen the session to four and a-half or five hours a day for senior instruction, giving them a half holiday on Saturdays and Wednesdays.

25804. You would have four whole school days and two half school days?—Quite so.

25805. What would you do on the Wednesday and Saturday afternoons?—That I would reserve in the girls' school for cookery and branches of that kind, and in the boys' school for manual training, or if there was no manual training, an extra lesson in drawing.

25806. Would you call that half-holiday work?—Yes.

25807. How long do you think a lesson in drawing should last for the senior classes?—An hour.

25808. And for the junior classes?—From forty to forty-five minutes; you see you lose a great deal of time in giving out the drawing books and pencils if you take only half an hour, and then take them up again, children's hands have not got into the way of using the pencil well when you are calling in the copybooks.

25809. Would you be in favour of continuing the examination in practical subjects in the hands of the present examiners; or would you be in favour of special examiners being appointed for that purpose?—I prefer expert examiners.

25810. Would you go as far as somebody did yesterday, as to say there ought to be lady inspectors of needlework?—It takes an inspector five years' practice in the schools before he would know good needlework if he saw it, unless he came into the service with some special qualification on the subject.

25811. Do you think that the present programme ought to be reduced and re-cut?—That is the present programme for schools. Yes, I think it ought to be.

25812. In what way?—Reduced in the amount, and then re-cut, that is, by cutting out results altogether.

25813. Most Rev. Dr. WALSH.—In reference to this important point of the system of payment to teachers, you consider that the present system ought to be altered?—Yes, I do.

25814. Do you think that each teacher should have a fixed salary, which should be paid to him on the full amount, neither more or less, irrespective of how the work of the school went on?—Yes, to be

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sure: but of course if the school was continually reported bad, I would strike him off.

25815. You are aware of the system that prevails in England. Individual examination has been abolished, and there is a system of grants made to the school?—They pay there upon the average attendance, beginning with 12s. 6d.

25816. And the original grant varies somewhat according to the particular school is merely well managed or is excellently managed?—Yes.

25817. You know the system that the National Education Board has for the Convent schools in Ireland, that if the teaching is good, there is a capitation grant of 10s., and if it is excellent, the rate per head is 12s. 6d. Does a system of grants made in that way work well?—It works better than a system of paying on passes.

25818. Do you think that the grants should be confined to the different subjects that are taught, or should there be a grant also for such a thing as the general discipline and tone of the school?—(Witness)—Do I understand that there would be no special for reading, if collectively examined?

25819. Most Rev. Dr. WALSH.—Take it in this way. In England the arrangement is that there is a capitation grant for the ordinary school work, then in addition there are grants for special subjects, drawing is one, and there is a grant of 2s. or 4s. a head for drawing, according as the drawing is tolerably taught or well taught. Suppose, now, there was to be a system of grants, do you not think that over and above the grants for the subjects taught in the schools, there ought to be a special grant for the general organization and tone of the school?—Decidedly, if you propose to pay so, but we already pay a teacher's salary for that very purpose. The original salary of the teacher is supposed to stand for school-keeping and discipline.

25820. But a teacher of the worst-conducted school in the country is paid just as highly as the teacher of the best-conducted school?—Yes.

25821. Is that likely to lead to very satisfactory results all round, taking human nature as it is?—I think discipline does not come by the amount of training you get in the college; it is more or less born with you.

25822. Don't you think people would be more likely to have better discipline in the school if it put money in their pocket?—They would make an effort.

25823. Which there is no inducement for them to make at present. Don't you think there is very great room for improvement in the National Schools in Ireland in general good order, punctuality, and all those things which go to make up the tone of a school?—Certainly.

25824. Is there anything in the present system which is calculated to lead to this improvement?—On the contrary, since the results payments have come in, those things you mention, your Grace, have to a large extent fallen off.

25825. And they have fallen off to a large extent in consequence of the introduction of the results system?—Yes.

25826. Your experience goes back to the time before the results system was introduced?—Yes.

25827. Will you tell us your impression of the state of things in the schools before the introduction of the results system and after it?—The results system acted as a stimulant immediately it was introduced.

25828. It did good at the time?—Yes.

25829. You would not say that the authorities who introduced it made a mistake in introducing it?—They were off educational lines, but something was required.

25830. And the good effect produced was produced to some extent by the introduction of the results system?—It was decidedly.

25831. We have had abundant testimony to that effect in England and in Scotland; but lest there

should be any false inference drawn from your statement, may I not point out that what you say as to this is quite consistent with holding that in the present condition of the schools the results system as we have it ought to be largely modified, and in a certain sense abolished?—I quite agree with you.

25832. You think too there ought to be expert examiners in certain branches?—Decidedly.

25833. To what extent do you push that view?—Let us take needlework: suppose you have an inspector appointed this year, how long will it take him to learn how to inspect needlework, even going round with the most experienced inspector?—It will take him five years.

25834. When you speak of expert examiners in needlework do you mean necessarily ladies?—Yes, I think a lady would be better to examine needlework. I believe I know at present needlework quite as well as any lady, but it has taken a long time.

25835. And you learned it, at least to some extent, at the expense of the people?—Very possibly.

25836. As to music, what do you say?—The same thing as about needlework.

25837. That is, that it should be inspected by an expert; does this apply also to drawing?—Perhaps not so much as to the others. An inspector would learn quicker, and he may come into the service with some knowledge of drawing.

25838. But it is difficult with needlework?—Yes, and also with practical cookery.

25839. You don't think inspectors are good judges of cookery?—I am going to examine it to-morrow, and I would rather not commit myself at present, before I go.

25840. About the hours of the schools, your evidence goes in the direction of increasing the hours?—Yes.

25841. Is there not a very great difference between the theory and the practice in this respect; under the rules of the National Board only three and a half hours of secular instruction are required?—Yes, three and a half hours plus half an hour for play.

25842. And under the system as at present worked, that may to a large extent be reduced, perhaps even to two hours, because the roll may not be called for one and a half hours after the school opens, and the children who come only in time for the roll call may then get only a couple of hours schooling?—We could hardly say the roll would not be called until half-past eleven.

25843. No, but suppose the school opened at nine o'clock, the four hours would be counted from nine to one o'clock, and half the children may not come until eleven, and although they are there for only two hours the State recognizes them as putting in a day's work?—I have not seen so extreme a case.

25844. No, but it is possible, and you can have any gradations of irregularity between that and a full attendance for the prescribed four hours; on the other hand, are there not many schools that do not at all confine themselves to the bare three and a half hours?—Many schools continue to half-past three or four.

25845. I take it that your remark about the extension of the school hours applies to the requirements of the Board, and if so, it really would not amount to an increase of the school hours in very many places?—It would not, and further, there would be really no increase in what I propose, because there would be no school unless for a practical subject on Wednesdays or Saturdays.

25846. Do you propose that the practical subjects should be taught on those days?—Yes.

25847. That I think would press a little hard upon the teachers; they would lose their weekly holiday, which somehow has now come to be looked upon in the great majority of cases as a fixture?—To make up for that, I propose that they should have, as in Germany, a fixed summer holiday; the Germans get eight weeks.

25848. But, as you know, there is in parts of Germany an old usage under which the teacher has to take charge of the pupils during a good part of the summer holiday?—That is the summer journey.

25849. Yes. Now there are a few points about the examination of the training college students, and of the teachers. All the questions given on this year's papers carried the same marks, and were supposed to be of equal difficulty?—A candidate who knew nothing about his subject this year was rejected upon that paper, possibly because there were no easy questions as in former years.

25850. But could a candidate who knew nothing about a subject have passed in it under the former system?—Not if he knew nothing, but if he knew nearly nothing, he might have pulled through, but this year he had no chance of doing it.

25851. CHAIRMAN.—They had harder papers?—They were not harder, but there were no easy questions.

25852. Most Rev. Dr. WALSH.—Under the former system a candidate could not get the maximum in a subject unless he took five particular questions put before him?—Yes.

25853. Under the new system he has his choice of ten?—Yes.

25854. That is a decided advantage for persons really well made up in the subject?—Yes.

25855. Have you thought about the question of physical science; you are aware of the result of the change made by the new programme; what remedy do you suggest?—I would be glad to see what was mentioned here, that the ordinary phenomena and a little botany should be taught.

25856. Do you know the subject called physiology under the Science and Art?—I do, but that is a hard subject under the Science and Art.

25857. But something easier, on the same lines, would be advisable?—Yes.

25858. In England if a candidate has not steadily passed in that subject, and takes up science, he must take up science in this particular sense, and it is science in this sense that you think should be taught?—Yes, portions of geology, portions of magnetism and electricity, and botany, and so on.

25859. Monsieur MOLLOY.—Have you seen Course B in the English system in the primary schools?—Oh, yes, I know English primary schools. I don't know Course B exactly; this is pretty much the same thing that they have in the German schools.

25860. No, it is not. It is a course prepared by some of the highest scientific authorities in England, and taken up by the London School Board, to try how it would work in the schools. It carries out the idea you have expressed of selecting a number of common things and simple scientific principles, and illustrating these—partly by objects and partly by simple experiments—making a connected course in that way, underlying the whole of physical science. Do you think that is better than to teach particular branches of science?—Yes, I should think that better in the schools.

25861. If such a course were adopted, and made suitable to the educational condition of the children in the schools, do you think it might be made compulsory?—Yes, for certain classes, for fourth, fifth, and sixth.

25862. And it would follow, as a matter of course, that such a course should be made compulsory in the training colleges?—Yes, and more extensive knowledge there, of course.

25863. It should be made more thorough and extensive, but should follow the same lines?—Yes.

25864. Mr. RAMSDELL.—What recasting of the programme for the schools would you suggest?—That would involve a very long answer, indeed.

25865. I don't want you to go into details?—would you leave out certain subjects that are now compulsory?—Grammar would be taken under read-

ing; not the grammar we have, not the parsing system, but an explanation of the logical connection of the parts of sentences.

25866. As to geography?—Begin at home, as in Germany.

25867. Would you still have geography as a compulsory subject?—Yes, to that extent.

25868. Agriculture?—Agriculture should only be taught provided the children can see what you are teaching them.

25869. As regards geography, would you be in favour of teaching it through geographical readers?—Yes, that could be done, provided there were maps around to carry them along.

25870. You would have geography a separate subject, and not merely taught through readers?—I would have geography as a separate subject still, taking the globe as at present. We don't have the globe and maps used as they ought to be.

25871. Have you drawn up a revised programme?—I have not, but I could.

25872. Mr. MOLLOY.—What was the date of your appointment as Inspector of schools?—August, 1878.

25873. The result system started in 1873?—Yes.

25874. You had no prior acquaintance with the schools?—I saw the schools just as they were when the results began in my first year as inspector.

25875. From your experience since, would you come to any conclusion as between the system of examination of classes and the examination of pupils individually, with a view to ascertaining the general state of the school?—An inspector could learn quite as well the state of the school from an examination of classes as he could by putting down a mark for every child in every subject.

25876. It would economise his time also?—It would economise his time also.

25877. And leave him more at liberty to confer with the teachers and ascertain their methods of teaching?—Yes, he could watch the school at work, from which he could learn a good deal.

25878. Have you ever turned your attention to the system of graded schools, in this way, that a third class teacher might be in receipt of a first class rate of salary, and a first class teacher according to his certificate of literary knowledge, be in receipt only of a third class rate of salary. That is, the school would be graded according to the answering of the pupils at the examinations?—That would lead to the illegal position of paying a first of first a third class salary.

25879. Does it follow that a first class man in point of literary attainments is always the best teacher?—On the contrary, he often falls off.

25880. A third class teacher might devote himself heartily to his school work and be far more successful than his neighbour, who was first of first?—Yes.

25881. Most Rev. Dr. WALSH.—But suppose that the suggestion I made here yesterday, when examining Mr. Pykpatrak, was adopted, and that the teachers were promoted from class to class, not on the passing of examinations, but on their work, as shown in the schools. Ought not this to work well?—That is the way, your Grace, that they ought to get their classification.

Most Rev. Dr. WALSH.—I am very glad, indeed, Mr. Strong, to know that is your opinion.

25882. Mr. MOLLOY.—You say you think that the school hours should be shortened in infant schools. Are you not aware of the recent regulation of the Board sanctioning that?—No.

25883. That children in the infant class of the infant school or of the ordinary school may be sent away at an earlier hour than at present?—They are not required to give four hours, but I don't know that there is any definite statement of the time they should give. I think three hours is enough.

25884. Did it ever fall to your lot to be called upon officially to revise papers after the July examinations? How many years are you head inspector?—Four.

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25885. Prior to the establishment of the new system of examination—that is, indicating candidates by numbers—were you ever called upon to revise teachers' papers?—You don't mean simply first marking and re-marking?

25886. Where it was found the teachers failed in certain subjects?—Yes, I have looked through a set of those.

25887. Was that revision by you of a special character confined exclusively to training college students? Did you ever get papers of ordinary teachers throughout the country?—Only occasionally. The ones from the training college all came up, but it was only some of the country teachers, where a question arose, that were brought. Where a question was raised by the manager, or possibly by the teacher, as to his marks.

25888. Or raised by the Education Office authorities on seeing that a teacher, say, in Kerry failed in grammar, but answered on the whole remarkably well, and scored a high percentage. Would not the paper of such a man be subjected to re-examination as well as if he had been a student in a training college?—Oh, yes.

25889. Rev. Dr. EVANS.—You are in favour of employing experts as examiners in art and practical subjects?—Yes.

25890. Is that in the schools?—Yes.

25891. Would you be in favour of the same mode of examining teachers?—Certainly.

25892. For their classification and promotion?—Yes. That is, of course, in the particular subjects—the ones you have mentioned there. I should be in favour always of those being examined by experts.

25893. Have we not in our inspection staff men who are competent to examine in music as could be found?—That is so, but you don't make these men examine alone in music, you pay a man specially for doing it, Mr. Goodman.

25894. Is no part of that work done by any inspector?—No, you have a specialist there.

25895. Do you know our old fifth class book—the

one before the one we recently revised?—Yes, I remember that.

25896. There was a good deal of elementary science in that class book?—I don't remember any science in the old fifth book. It is in the last fifth book that Monsignor Molloy's papers were.

25897. There was an old fifth book a good many years ago, full of lessons on scientific subjects?—There was one upon the agriculture of Ireland, industrial resources of Ireland, and so on.

Rev. Dr. EVANS.—At all events, I wanted just to have your opinion as to how far it might be suitable for our present purpose if we introduced elementary science.

25898. Rev. Dr. WILSON.—His Grace brought before you the question of payment of teachers, I presume from what you said that you would be in favour of the English and Scotch system of giving teachers a higher salary than ours get, and doing away with the results test?—That is what I would be in favour of.

25899. You think on the whole it would contribute to improve education in Ireland?—Yes, you would get sounder work done than at present.

25900. As to the question of shortening the hours for infant and junior classes, I quite agree with you, and I think that should be emphasized. I met a teacher lately who complained that she had to keep her little children too long, and I said to her, as Mr. Molloy suggested, that the manager had power to dismiss them earlier. "Well," she said, "I would be very much afraid to meet the inspector if I had them dismissed." I think it should be emphasized that the teacher or manager have the power to allow infant children to go home early. Do you think it does great harm to the state, children's health, and does not contribute to their education?—Certainly, after one o'clock in the day children under seven or eight years of age will learn very little. They are tired out with the heat of the schoolroom and the work they have done, and they are restless and disturb the other classes.

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FIFTY-FIFTH PUBLIC SITTING.—FRIDAY, NOVEMBER 19, 1897.

AT 3 O'CLOCK, P.M.,

At the Artists' Concert Rooms, Dublin.

Present:—HIS GRACE THE MOST REV. WILLIAM J. WALSH, D.D., in the Chair; THE RIGHT HON. C. PALMER, LL.D., LORD CHIEF BARON OF THE EXCHEQUER; THE RIGHT HON. C. T. REIDINGTON, M.A.; HIS HONOR JUDGE SHAW, Q.C., LL.D.; THE RIGHT REV. MONSIGNOR MOLLOY, R.D., D.D.; REV. HENRY EVANS, D.D.; REV. HAMILTON WILSON, D.D.; PROFESSOR G. F. FITZGERALD, F.R.C.S.; STANLEY HARRINGTON, Esq., B.A.; W. R. J. MOLLOY, Esq.; CAPTAIN T. B. SHAW, and J. STRUTHERS, Esq., B.A.,

with J. D. DALY, Esq., M.A., Secretary.

Professor T. JOHNSON, D.Sc., F.R.S., Professor of Botany, Royal College of Science, Dublin, examined.

Professor T.
Johnson, D.Sc.
B.A.

25901. CHAIRMAN.—You are Professor of Botany in the Royal College of Science, Dublin?—Yes.

25902. Will you kindly describe the organization of the College, its teaching staff, what professors there are, and what branches they teach?—This is the Directory of the College, and perhaps I may hand it in.

25903. There are eight professors, I understand?—Yes.

25904. Who are the professors?—They are given in the Directory in the order of seniority. There is Professor O'Reilly, mining and mineralogy, and then

there are professors of physics, chemistry, zoology, botany, geology, applied mathematics and mechanics, and descriptive geometry and engineering.

25905. The College, I believe, was established in 1847?—Yes.

25906. And one of the objects for which it was established was to help in the training of teachers?—Yes, for local schools of science.

25907. Has the College performed that branch of its work to any notable extent?—Well, no. What I should say is that as far as the Council of the College has been able to do it with the arrangements and

general facilities which it possesses, it has been done; but compared with the London College of Science, and with the University Colleges which have sprung up since all over the country, it is not, I should say, getting far play; at any rate it has not been developed all along the line. I hold that opinion very strongly.

25906. In speaking of University Colleges which have since sprung up all over the country, you are evidently speaking not of Ireland but of England?—Yes, I am speaking of the Royal College of Science, London; University College, Liverpool; Owens College, Manchester, and the Yorkshire College, Leeds, and so on. All these Colleges have government subsidies in order to enable teachers to get a training in them, and so far as the Dublin College is concerned, no attempt has been made to develop it in that direction.

25907. Do you think it desirable that the Dublin College of Science should be utilised in that direction?—The members of the Council are, I know, most anxious to do it, and they have sent in recommendations which have never been acted upon.

25908. To whom did you send these recommendations?—We did it through the official channels—through the head office in London—and they are most anxious to help in the matter, but nothing has been done.

25909. As a matter of fact, then, it has not gone further?—It has not gone further.

25910. You seem to have done your part—you sent them the recommendations, and the recommendations have not been acted upon?—Yes. I had been accustomed to the training of teachers when I was in the Royal College of Science in London. I was demonstrator there from 1885 to 1890, and then I came to Ireland. I was so much delighted with the work of using the teachers there that I offered three years ago as an indication that the teachers of Ireland would come to our College if they got a chance, to give a course of lectures in the month of July. I sent an official letter saying, "If you will allow me I will give a course of lectures in July to the teachers without fee, to prove that the teachers would come for instruction if they got an opportunity." The Department itself, so far as I can speak of its policy, seemed to be quite willing to let the teachers come, but nothing came of the suggestion.

25911. To whom was the suggestion made?—It went from the Council to the head quarters in London.

25912. That is the Science and Art Department?—Yes. It was the inadequacy of the College itself—that the building was not suitable for the existing requirements of the College—that partly stopped the matter.

25913. I believe the Royal College of Science in England has made arrangements to enable a certain number of science teachers to attend a course of instruction at the College in South Kensington in July?—That is so.

25914. And the teachers selected to attend any of these courses receive their railway fare, and a sum not exceeding £3 towards their expenses while attending the College?—Yes.

25915. Is there any corresponding regulation here in Dublin?—No.

25916. Captain SHAW.—That London arrangement applies to Ireland?—Yes. I had one or two from the Belfast district nearly ten years ago when I was in the College, but I think most Irish teachers would prefer to be trained in Dublin and not in London.

25917. Mr. MOLLOY.—You would prefer it?—Yes.

25918. CHATELAIN.—In looking over the reports for the current year I see that 750 offered themselves for this course, but that only 250 were admitted?—Yes. I think at least 600 teachers apply in London

College every year, and of the 600 only 250 are admitted, so that there is a big demand for instruction.

25919. Then, again, in the London College of Science arrangements are also made for a limited number of science teachers, and of students in science classes who intend to become science teachers, to be admitted free for a term or a season to the seasonal course of instruction in the College?—Yes, that is so, in many cases for three or four years each.

25920. And whilst under instruction they receive a maintenance allowance at the rate of 21s. a week, and their railway fare is paid for one journey to and from each session between the home of the teacher or student and the College?—That is so.

25921. Is there any corresponding arrangement to that in Ireland?—No; I may give you an illustration more or less bearing upon that matter. Quite recently, about two years ago, I found a man in the Botanical Department in the museum, seeking botanical information to help him to obtain a Royal Exhibition in the London College. I saw he was working on the wrong lines altogether, and I told him what he should do, seeing that he was really not fit for competition for an exhibition. He was a student from the agricultural farm in Glensnevin; he is now in London in his second year of training as a teacher in science. One of his chief recommendations in getting into the College was that he was going to teach in Ireland. I told him that he ought to apply as the English teachers apply, and ask the Department in making the selection to take into consideration the demands of the district, and that teachers in science were few in it. That was one of his strongest recommendations.

25922. I find that another arrangement in the London College of Science is that any bona fide teacher who is qualified to earn payments on results, and who is actually engaged or who has recently taught approved science classes under the Science and Art Department, may be permitted to attend without payment any course of lectures in the College; and that arrangement seems to hold both for London and for Dublin?—That is so.

25923. The only provision made therefore for Irish teachers is that they will have a right to attend the lectures, but there is no provision made to pay their railway fare, or to pay for their maintenance whilst they are attending the lectures?—No.

25924. Over and above the privilege which they get by gaining an exhibition in competition with English teachers trained in the English colleges, the Irish College of Science gives the teachers no assistance of the kind—I have mentioned?—Nothing of that kind.

25925.—There are, I believe, Royal exhibitions and National scholarships?—Yes.

25926. There are twenty-one Royal exhibitions I understand?—I cannot say the exact number for the whole of the United Kingdom.

25927. There seem to be seven open for competition each year, four of these are to be held in London and three in Dublin?—There are three for Dublin.

25928. I find that during the present year there are twelve exhibitions held in connection with the London College?—We have three here each year. We have nine exhibitors altogether, three each year, each staying three years.

25929. These exhibitions are of £50 a year, and they include the privilege of free admission at lectures and also the use of the laboratory?—Yes.

25930. Besides these, there are sixty-six National scholarships?—Yes.

25931. And twenty-two of these are open for competition each year?—Yes.

25932. These scholarships entitle the holders to free attendance at lectures, and to free access to the

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laboratory, and there is a maintenance allowance of 30s. a week for a session of forty weeks?—Yes.

25933. That comes to £90 for the session. Then they would seem to be more valuable than the exhibitions?—Yes.

25934. The holders of these scholarships get also their railway fare?—Yes.

25935. The persons who obtain the scholarships have the option of attending either the London or the Dublin College?—Yes.

25936. In addition to all this, there are eighteen free studentships?—Yes.

25937. And these entitle the holders to free attendance at lectures and free use of the laboratory, but they exist only in connection with the London College?—Yes.

25938. There is nothing of the kind in Ireland?—No.

25939. What is the total annual Parliamentary grant to the Royal College of Science in Dublin?—It is nearly the same as at the foundation in 1867; I don't know the exact figures.

25940. I have the estimates here, and I can put the figures to you, point by point: these are the estimates for 1896-97, the vote for the College, for the year, is £7,067?—I don't know the exact figures; I know it is the same amount as it was in 1867.

25941. For salaries and wages the vote is £4,795?—I don't know the exact figures.

25942. But it may be well to have them on our notes, as it has been suggested that the College ought to help in the training of science teachers, this being one of the objects for which it was established in 1867. I see there is a vote of £300 for the laboratories, and another of £800 for the purchase of specimens, and so forth. What do these two votes cover?—The teaching apparatus required for the different subjects.

25943. If the College was to be made practically useful for the training of our teachers in elementary science, plainly a good deal of reconstruction would be requisite; but can you offer any suggestion as to what you consider should be done?—Perhaps you would allow me to give, as an illustration in answer to that, the difficulty Irishmen have in competition with those from Great Britain to obtain the open exhibitions and scholarships. I say it is quite hopeless for a man with the present facilities for science instruction in Ireland to successfully compete for an exhibition. Practically the exhibitions and the scholarships go to the other side of the water, and scarcely anything comes to this side.

25944. Is there any large proportion of them held by your students?—No; it is quite the opposite.

25945. And having got them in England, they exercise their option of coming here, instead of going to London?—Very rarely.

25946. And as regards the three exhibitions, the holders of these also have an option of holding their exhibition in the Dublin College, and they exercise that option?—Yes, or leave the exhibition.

25947. It is your view that the great advantage they enjoy in this competition is that they have got better teaching in England than Irish candidates have?—Yes. What I would like to see is the standard of teaching raised here so that the men may compete on equal terms with the others. It is too much to expect Irish scholars to win these exhibitions with the facilities given for preparing for them. An Irish boy or an Irish girl is quite capable of competing with an English boy or an English girl if given the same facilities to prepare for competition, but the facilities for preparing for the competition do not exist in Ireland.

25948. The Lord Chief Baron—Mr Johnson, in any effort made to avail ourselves of the benefit of your College for the training of the existing teachers, of course it would be essential that it would be done in Dublin?—Yes.

25949. Now what suggestion would you make as to render your College available for them?—Well,

I think there are two things to be considered—one is that the College should be on a broader basis than it is at present. The college at present is very inadequate. We have the case of an exhibitor who left the College rather than held it in our College and we have a man of Irish parents who went over to London to be trained, because of the facilities that exist there.

25950. The amount of knowledge necessary for an exhibition is very much greater than would be required for an ordinary teacher teaching in a National school?—Yes, the competition is so much keener.

25951. Now our object would be, not so much competitive examination as giving an opportunity to the teachers to be taught, not teachers going in for any public competition, but rather teachers who would be selected by some authority for instruction, having regard partly to the qualification of the teachers themselves and partly to the necessity of the locality?—These are the two points of selection in London, the needs of the locality and a certain amount of competition amongst the men.

25952. This is a question of the teacher in our National schools: leave quite out of mind Royal exhibitions and everything in relation to these things, and come to the simple question as to how we could avail of your College for the purpose of teaching the existing teachers?—The first and simplest step would be the introduction of a summer holiday course.

25953. A July course?—A July course in different subjects, if possible.

25954. A proper programme should be constructed if we were to have that course. How long should the summer course last?—It lasts three or four weeks in London, and the students are most enthusiastic in their work.

25955. Do you think one session would answer for the purposes of training?—I think a summer training would be sufficient to help a man to lay the foundation of the subject, and if then if he had an interest in it he would work in his leisure hours and prepare himself to teach the subject.

25956. How many do you think you could train for the whole year?—The College buildings are not enough for present purposes. We have a chemistry course there, and the demonstrator, who has done a good deal of research work has no place to carry on his work.

25957. Am I to understand that some change in the structure of the present building is necessary, or you would not be able to teach any of them in the college?—We could teach a certain number—between twenty and thirty during the session.

25958. An improvement in the building would be necessary before you could take a greater number?—Certainly.

25959. What kind of selection would you make; would you take the candidates most familiar with the subjects, or would you have the Board of National Education select the men?—I think if it were a department like the National Board of Education requiring the teachers, it had better have the main voice in selecting.

25960. Judge SHAW.—What facilities have you for the training of teachers in manual work and wood work?—I think that would be under the professor of engineering. He is at present teaching mechanical engineering with a little collar for a workshop.

25961. You have no knowledge of that particular department?—I know the arrangements, that the teaching is in a cellar in an old house.

25962. Who has the teaching of geometrical drawing?—The same professor—he is the professor of mechanical engineering, and he also takes geometrical drawing.

25963. What facilities are there?—There are no facilities for the practical work in the subject.

25966. Rev. Dr. EVANS.—Do you think it is possible to teach elementary science in a useful way in an ordinary primary school?—Certainly I do. It is not only possible but absolutely necessary.

25967. And would the teachers generally be capable of obtaining such a knowledge of elementary science that they would be efficient teachers of it?—I have no doubt about it. In my opinion a good teacher is capable of taking up and teaching any subject he chooses.

25968. Mr. SYNTHURA.—What subjects would be included in the July course?—I think physics, chemistry, botany, zoology, and mechanics and their applications. I think each student should take one subject.

25969. He could not take more than one subject?—There would be four or five subjects going on simultaneously, and he could take chemistry or physics or some other subject.

25970. Is it your idea in the school course that you should confine the children also to one subject?—No; I would give general instruction in the principles of science, a course of instruction that would bring them into touch with the things around them, I would speak of the general laws of nature, the composition of the air and such matters, taking up special subjects later on.

25971. Would you embrace the elements of settled science?—I think there should be a very good course in photography. I think a boy or girl should be brought in touch with nature as far as possible.

25972. Don't you think it is very important that the teacher should know the work of a course suitable to children?—Yes.

25973. And that it is most important that he should have a knowledge of chemistry and of nature's laws that he should be speaking about in teaching the children?—Yes.

25974. It is very desirable, therefore, in order that he may be able to speak about these matters to the children attending school that he should have some experience in the working of these particular courses?—I think so.

25975. Captain SHAW.—What do you say a man may learn in a month's course in science?—I think that a summer course such as I suggest helps a man who is anxious to get up a particular subject to lay the foundation for working up that subject in his leisure time.

25976. Do you think the teachers could learn all they want in a month?—He could not possibly.

25977. Would the summer course be the same as the usual course, the teaching of actual science?—Yes. I have taken part in a number of courses as demonstrator. We had a course of lectures each morning, and as demonstrator I was responsible for the practical application of the spoken principles laid down in the lectures.

25978. What you approve of is a course which is a sort of specimen of teaching for teachers?—Yes, a course of instruction which will not only cover the principles of the subject, but which will also give the method of teaching the principles too.

25979. And you assume that the man already has a certain knowledge of science?—As a rule a man who comes to a holiday course, is anxious to make the most of his opportunity and so learns something of his subject beforehand.

25980. Would you allow them to do practical work themselves?—Yes.

25981. Would you consider that necessary?—Yes, I think it is the tendency in the examinations as to science. I know, from the example of the London examinations, that it is impossible now for a student to pass an examination, unless he has a practical knowledge of the subject. Unless that is done it is better that the course should be left alone.

25982. You understand the provision as to teachers engaged in science teaching?—Yes.

25983. You see no objection to receive such teachers?—I think that a Government institution should give every facility for instruction.

25984. Does not paragraph "D" page 41, in the report apply to the College of Science here?—And is granted to a limited number of teachers engaged in science teaching who are selected to attend provincial science colleges?—No, it does not apply to us at all.

25985. I think it includes the College in Dublin?—It may be applicable: it has, however, never been acted upon.

25986. Mr. HARRINGTON.—From what class of schools do the Royal College of Science students come?—They come from the schools generally, and places where they help themselves at evening classes of instruction.

25987. What is the limit of age?—They must be sixteen, and they must pass an entrance examination.

25988. Supposing there was teaching of elementary science in the National schools, would it not be a considerable help to the College of Science?—Certainly it would. It would improve the source of supply, which is very poor at present.

25989. They come to you with little knowledge of science?—They come with no knowledge at all, some of them.

25990. Do most of them take up special branches of science?—Many of them do, and many become teachers.

25991. After leaving the College many of these boys take up jobs in different parts of the country?—Yes, chemists or engineers, &c., and some of our students are assistant county surveyors throughout the country.

25992. Mr. MOLLOY.—What is the extent of the entrance examination in the College of Science?—It is very slight indeed. A little knowledge of Book-keeping and mathematics.

25993. Does chemistry enter into it?—No. You will find it in the directory—arithmetic, algebra, plane geometry and elementary practical geometry.

25994. Do you propose that persons already engaged in primary schools should have to undergo an examination?—No, I should say not. The entrance examination is for students taking the regular systematic course.

25995. Well, take the summer course?—No, I don't think there is any necessity for an examination.

25996. The summer course you propose to carry out chiefly through the month of July?—Yes.

25997. In Ireland we have no fixed period for holidays, but the holidays as a general rule are from August to September, and July is a very busy time as our examinations?—I don't know how you regulate the holidays.

25998. Have you any other suggestion to make as to carrying on a course at any other period of the year?—Well, our ordinary session, extending ten days at Christmas and ten days at Easter, is carried on up to the 21st of June, and it is necessary that the staff should get a holiday. I don't know of any period, except during July, to give a holiday course.

25999. Mr. STURTEVANT.—And the session begins in the first week in October.

26000. Mr. MOLLOY.—At one time in connection with the College of Science there were evening lectures?—There are still.

26001. Years ago those lectures were well attended by a great many teachers?—And are still.

26002. These lectures are purely voluntary?—Yes.

26003. Have you any National teachers undergoing instruction?—I have no means of telling that.

26004. You don't know?—We don't know anything about them.

26005. How many are under instruction in the evening?—The course in the evening does not last through the session. Some of the staff give lectures in the evening.

26006. In case it would be impossible for the teachers to attend in the daytime, would an evening

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course be more advisable or more suitable?—You must remember that the College staff is very hard worked, and it would be scarcely fair to ask all the professors to come back in the evening and give lectures after doing the day's work.

26007. Professor FITZGERALD.—Some of the assistants could help?—Yes; some of the assistants do help. We have assistants in the Kevinstreet school and in the Ringsend school.

26008. Isn't it from the intermediate rather than the primary school that the students come?—Probably.

26009. And the increase in the training in the National schools would probably make not much difference in the present classes?—It would gradually. The elementary school boy would be trained gradually.

26010. Teachers to attend the College would have to reside in Dublin or near Dublin?—Yes.

26011. Don't you think that they could be well trained in science teaching at their own colleges?—I should say without any disrespect to the men in the training colleges, that with the apparatus of our College we could give the course of instruction better than

26012. Take the training college at Drumcondra, would it not be a long way off for the classes to come to Stephen's-green? Wouldn't that make a great difference?—If you compare the distance that is covered with the greater facility for teaching in the College of Science—the much greater facility than in a local training college—it would not make a difference.

26013. CHAIRMAN.—But has the Royal College of Science this greater facility?—In apparatus, certainly. I don't know, of course, what the accommodation in point of apparatus and diagrams in the training college may be, but certainly the facilities must be greater in the College of Science or it would be a discredit to the College, having regard to the money it gets.

26014. Professor FITZGERALD.—They have come to reside in the training college in Dublin while under training, and wouldn't it be desirable that they should be instructed there rather than in some other college? I don't know quite enough of the training colleges, but if the facilities could be given there, it would be the better system.

26015. There are two classes of teachers we have to deal with, the teachers in training and the existing teachers, for whom you would intend the summer course; and as regards the teachers in training, you propose that they should be trained, not in the training college, but in classes in the College of Science?—I think it might be done in the training college, but you have not the necessary apparatus and specimens in the college.

26016. CHAIRMAN.—AND YOU KNOW that there are 150 students in training in the Drumcondra Training College?—I don't know the exact number.

26017. Well that is the number now supposing there are 150 students in that one college, and, say, 100 in Marlborough-street, making 250 in all, what accommodation have you for them?—The largest lecture theatre holds about 100.

26018. I merely wish to know what exactly you propose. Supposing that there are 250 students to be trained as teachers of elementary science, what do you suggest can be done by your College in this work?—It might not be necessary to take the whole of them in the same subjects at the same time.

26019. Professor FITZGERALD.—Do you know how they manage the training in England?—I do not know how they manage it generally there, but I know some of them go to the University colleges.

26020. They are mostly taught in the training colleges?—Yes.

26021. Except where there is no regular residence house attached to the college?—I think the science teachers in Westminster College were not trained in

the college. I think they were trained in my own College. In Liverpool, they are trained in the University College.

26022. Captain SHAW.—Yes, the students go in from Edgely Hall.

26023. Professor FITZGERALD.—Now, the teachers who are being trained to teach science, don't you think they should have practice classes, where they would see and know what they are taught?—Yes. I think it is much better that every teacher in training should not only know the subject, but that he should be able to superintend the teaching of it, and be able to give object lessons on the subject to a class of students.

26024. In London in the training of teachers they don't provide anything of that kind?—No.

26025. Don't you think it would be a great deal better if they did?—Yes.

26026. Do you think in a college where teachers are being trained there should be a practicing school attached to the college?—I think so.

26027. A centre for science; a centre, say, for woodwork?—Subject to the supervision, of course, of a person who would be really able to supervise it.

26028. The best arrangement, then, for a training college where teachers are being taught is that there should be a practicing school in some way attached to it, so that the teachers in training could have an opportunity of seeing how the work is done, and doing the work themselves?—Yes, and have their methods criticised and their faults corrected.

26029. One thing, it would have a powerful effect on the teaching of agriculture, and prevent it being taught out of mere books. Do you agree that agriculture should be taught in primary schools?—The principles of botany should be taught. There should be practical illustrations of the principles underlying the growth of plants.

26030. Do you think it a desirable thing that the teachers should be taught the way they should teach that subject to children?—Yes.

26031. Could that be done in the College of Science?—Certainly.

26032. Do you think it could be done with some sort of accuracy?—My own impression here is that the facilities for teaching botany here are much better than in London. We can go out to the Botanical Gardens.

26033. Then you propose that the students should go out to the Botanical Gardens as a practicing ground?—Yes. It is a Government institution.

26034. Look at the distance. Would not a great deal of time be spent going backwards and forwards?—I think not. I think it would be time spent in exercise, two hours exercise and instruction.

26035. You think that, instead of the present system of teaching agriculture out of books, it would be most important in Ireland that the teachers should teach the principles of botany underlying agriculture?—Yes. There should be practical illustrations of the subject, and men should see as much as possible the thing they are reading about.

26036. Do you say that boys who are to plough and sow should know the way plants germinate?—Yes; and know something of the history of the plant itself. May I mention one point? Any Irish boy may understand the principles of the formation of hybrids in a few minutes if the subject is taught with the aid of specimens.

26037. Would they want to know how the hybrids are actually produced?—Students could do that for themselves.

26038. Monsieur MOLLAT.—I think you said the supply of students is very poor in the College of Science?—It is the material of the student himself a poor

26039. In point of numbers in the attendance good?—It is large.

26040. What is the number of Irish students at present in the college?—For the whole college

position, 110 students. Twenty of these are not Irish, but the rest are Irish, or resident in Ireland.

26041. Then you have ninety Irish students?—At present we have.

26041A. Is that for the day course?—Yes.

26042. Professor FITZGERALD.—How many of the students take up the full course in the college?—I think about thirty.

26043. Monsignor MOLLOY.—What are the remaining eighty students doing?—They are taking out special courses.

26044. What courses do they chiefly take?—Last year in total there were twenty-six, some of them teachers.

26045. Professor FITZGERALD.—How many are going to the Royal University?—Very few, indeed; perhaps two. Certainly not more than three or four.

26046. Monsignor MOLLOY.—Then the great majority, though reading the regular course, were taking up only particular subjects?—Yes, they take some special subject, but thirty take the full associate course.

26047. Professor FITZGERALD.—Are not the majority of those thirty who take the full course assisted, but the others are not assisted in the same way?—Many of the thirty will be exhibitioners or have scholarships.

26048. Monsignor MOLLOY.—How do you account for the fact that so many fail to take the full associate course?—I think the school system in Ireland is wrong, and that the boys get no encouragement to study science.

Professor GREENVILLE A. J. COLE, F.R.S., Professor of Geology, Royal College of Science, Dublin, examined.

26056. CHAIRMAN.—You are a Professor of Geology in the Dublin Royal College of Science?—Yes.

26057. You are in a position to give us information as to the training of teachers in the Royal College of Science in London?—I will tell you my own experience there. The teachers brought up in the London College are of two classes. Some are brought up for the whole course and trained from the beginning in science, and some are brought up for the summer course. The latter class have generally already undertaken the teaching of schools.

26058. The first class, I assume, are those who intend to become teachers?—Most of them are young men who are beginning their careers, and they enter upon a course of science which they are pledged to apply in teaching, and as far as there is room the colleges are open to them.

26059. Then they can go for any particular branch?—Yes, they apply at their own taste, but the Department has the choice. These men have passed certain of the Departmental Examinations.

26060. Is it from the training colleges that the teachers come in?—These persons are not trained in the training colleges. They are taken from the country at large and from technical or other schools.

26061. Do any teachers or students in training in the English training colleges go to the London College of Science to learn scientific principles?—That I am not aware of.

26062. As far as your experience goes?—As far as my experience goes they were not actually engaged in the training colleges.

26063. Well, as to the other branch of the work, the summer work?—The summer work is for men already engaged in teaching for the Department. They were known by the results of their teaching, and even where these results were excellent, they might not have been sufficiently trained in certain branches of a subject or three might be some other element against their future success, and they are brought up for a special course in a subject which they

26049. Do you think it is desirable that there should be some elementary science taught in primary schools?—I do.

26050. Do you think it would be desirable that the children should be taught the rudimentary principles of science generally rather than that they should be taught particular branches of science?—Yes, I think they should be taught the foundations of science first.

26051. Do you think that if elementary science were introduced in a more advanced form, into the intermediate schools, there would be a larger supply of students to take advantage of the College of Science?—I think it would have that effect.

26052. In reference to the summer course, I take it that you contemplate a summer course for those who are already masters of schools, not for teachers in training?—I don't see why the students should not come also.

26053. But if they were in training colleges, going through a regular course, there would be no necessity for them to come to the College of Science?—That would be better, of course.

26054. For those masters who had never got a science training, and who were engaged in teaching in schools, the summer course at the College of Science would be a great advantage?—I think it would be.

26055. Many of these teachers have studied science out of books, and a four weeks summer course in practical work would make their knowledge more sound and thorough?—Yes, a summer course is a holiday course, and no man would come unless he was anxious to receive information, and he would naturally learn something of the subject before he came.

may have already taught, or which they may not have taught up to that time.

26064. Can you say how many teachers for the summer course were brought over from Ireland?—Not many in the subjects of geology and physiology—three or four each year.

26065. Were any of these Irish National school teachers?—I think from the addresses they gave that they usually were.

26066. Three would be the whole number for the year?—In that particular branch.

26067. That would be a very small proportion?—There would be six or seven each course going on at the time and that number would have to be multiplied.

26068. What do you think as to the possibility of the College of Science in Dublin being utilised for the instruction of teachers of elementary schools, whether throughout the year, or by means of a summer course?—I imagine if the teachers offered themselves, who proposed to teach in the elementary schools, they could be trained side by side with the students in the college.

26069. You are speaking now, not of actual teachers, but of candidate teachers?—Yes.

26070. That is, persons who as yet are only preparing for the office of teachers?—Yes.

26071. Do you really think the College has sufficient accommodation for the teaching of the students in the training colleges?—I think it could offer in its present condition considerable facilities in the way of apparatus and materials for the improvement of the training of those who go to the training colleges.

26072. But have you room in the College for the students from the training colleges in addition to your present students?—They could be taken at separate hours.

26073. But remember that, as I have pointed out to Professor Johnson, they are to be counted by the

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Professor T. Johnson, D.Sc., F.R.S.

Professor Greenville A. J. Cole, F.R.S.

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Professor
Granville A. J.
Cole, &c. &c.

hundred £—In that case an enlargement of the College would first be necessary.

26074. Does it come then to this, that taking the College as it stands, with its existing buildings, it is not possible for it to do any substantial work there for the training of our teachers?—With the existing buildings it could not.

26075. Next then, as to the summer courses that have been suggested, is the College in a position to do anything substantial in that direction?—I should say it could.

26076. Are the professors willing to take up all this extra work during the summer, without receiving extra payment for it?—I think that under the circumstances they would not be willing to take up the additional work for the salaries they now receive.

26077. So that, taking the College as it stands, with its existing buildings and its existing grant, it is not really in a position to do very much for us either in the work of teaching throughout the year, or in the work of summer courses?—No. I may say for this work extra emolument was given in the London College many years ago.

26078. Now, let us look at the case in another way: supposing that anything could be done for us by the College, what branch of science should be taught?—I think the present physiography course, which has been arranged by the Department of Science and Art, with modifications in favour of the elements of agricultural teaching and some of the elements of zoology and botany.

26079. That is, botany and the sciences that underlie agriculture, with special reference to the teaching of agriculture?—Yes.

26080. The course would be on the existing lines of the physiography course, with modifications having regard to the fact that it was to be taught by teachers in secondary schools?—Yes.

26081. Would it not be useful that it should be modified also in view of the fact that it is to be taught not only to boys but to girls?—I don't think so to any extent.

26082. In reference, for instance, to cookery, as there are teachers of science that underlie cookery, would it not be useful to have the course modified in the interests of girls?—I did not contemplate cookery as a branch of physiography.

26083. But of course there are certain natural laws that come into play in cooking?—I think that relates more to chemistry and physics.

26084. Is there not something of chemistry in the physiography course?—Yes.

26085. And could you not, in teaching girls the elementary principles of chemistry, bring into special prominence some of those principles that relate to the operation of cookery?—Yes.

26086. Is there any general observation that you wish to make?—I think the schools should have a course of physiography, including the elements of physics, and the fundamental things in chemistry. With regard to Irish schools, a certain amount of zoology and botany should also be considered fundamental subjects.

26087. You are of opinion that in elementary schools there should be a course of a general nature in science, rather than a course in any particular branch of science?—Yes, the first year's course in scientific instruction should be of a very general character.

26088. CAPTAIN SEAW.—Do you say the children should have some practice on the materials?—Yes.

26089. Is that a practice by the teacher at the children?—By the children in every case.

26090. PROFESSOR FITZGERALD.—Are not the teachers trained in the South Kensington School mainly from the organized secondary and technical schools rather than those from the primary schools?—I can't tell you that matter numerically, but I know the summer course teachers are largely engaged in the Board schools and teach evening classes in science.

26091. But don't they come from the organized science schools through the country rather than from the elementary schools?—I think the summer course always draws largely from the teachers of the general schools, the Board schools.

26092. Some of the teachers in the Board schools and in the science schools have evening classes?—Yes.

26093. There is very little of that in Ireland?—Less than there used to be.

26094. Do we not require teachers in advanced science for teaching in the technical schools?—Yes.

26095. Is not that more the direction to which the College of Science ought to devote itself?—I think the College of Science would gain greatly in influence by having the teachers in the elementary schools side by side with the other students.

26096. In order to teach the children to do experiments, would it not be essential that there should be practising classes for the teachers?—I regard that as work for the training colleges. In the College of Science they would have the example of our own teachers.

26097. But you cannot teach children in the same way as grown-up people?—I think the training college should undertake that duty; that is a branch of pedagogy which might be supplied in the training colleges.

26098. Don't you think in the training colleges a teacher in training should see a teacher teaching children?—I think the scientific instructor of the teachers might not be the most suitable person to teach. He might be a very clever person, and yet be might not be capable of teaching boys.

26099. Mr. MASON.—Do you think it would be possible to teach in the primary schools natural history by means of object lessons?—Yes.

26100. Do you think that would be desirable?—I think it would in a country such as Ireland.

26101. Do you think it would be desirable to encourage collections of minerals and plants in schools?—Most desirable.

26102. That would not involve any great difficulty?—Provided the master knew where to look for them.

26103. But you would suppose that the master was trained in a training college?—Yes. He should be taught where to look for them.

26104. With regard to the fundamental principles of physics and chemistry, there might be experiments to illustrate them?—Those experiments are formulated in the course of the Science and Art Department.

26105. Such a course in physiography as that might be the course in the training colleges, but there should be something more ample for the training of children in schools?—Something slightly simpler.

Professor W. F. BARRITT, F.R.S.E., Professor of Physics, Royal College of Science, Dublin, examined.

26106. CHAIRMAN.—You are a Professor of Experimental Physics in the Royal College of Science, Dublin?—Yes.

26107. I remember that you gave evidence before the Royal Commission on Technical Instruction in 1883?—I did, your Grace.

26108. And you delivered an important address to the Congress of National School Teachers in 1893?—I do not know if it were "important," but I gave an address.

26109. It has been printed and forms a very interesting pamphlet; I have the pamphlet here, and

Professor W. F.
Barritt, &c. &c.

a good deal of what you say in it seems to bear upon the subject of this Commission's inquiry. First, you are strongly of opinion that elementary science should be an essential part of the ordinary school curriculum?—I am.

26110. And that it should not at all be confined to the higher classes?—Yes.

26111. You are aware that on the existing programme for the National schools, science only comes in as an extra subject, and even that, only in the higher classes?—Yes, I am aware of that.

26112. But I am sure you don't approve of it; you consider that, as far as possible, science should begin in the lower classes, in the form of object lessons?—It should begin in the kindergarten.

26113. That will be at least a foundation for it, and then it should go on without a break through the whole course?—Yes.

26114. Unfortunately it has to be recognised that in the past the Board of National Education, as you remark, has not done very much for the teaching of science in the schools in Ireland?—True, and I am not the only person who has regretted this.

26115. Well, I trust it is by this sufficiently well-known that the National Education Board are now quite as anxious as you yourself could be to do anything that can possibly be done in that particular Department?—I am very glad to hear it.

26116. As a result of the grants from the Science and Art Department, something has been done for the teaching of science in such schools?—It has, I believe.

26117. And in your address in 1893 you spoke of a change having been then made in the arrangements of the Science and Art Department's grants, and you said that, as a result of the new arrangements, even this small achievement, which was then to the credit of the Science and Art Department, was likely to be destroyed?—It was probable.

26118. There was a disinclination of the grant on account of the increased difficulty in passing the new standard of examination, and the lower grade pass was altogether abolished?—Yes.

26119. And you appeared to think that the change practically meant the extinction even of the small amount of scientific instruction then given in the primary schools?—Yes, so far as that depended on the Science and Art Department.

26120. I believe the event fully justified your prediction?—I do not know officially, but I believe it has.

26121. You consider at all events that the change then made was a very unfortunate one?—Yes.

26122. Now turning from the past to the present, you consider that something effective should be done for the training of teachers at the Royal College of Science?—Certainly, I am very strongly of that opinion.

26123. In your pamphlet you advocate an increase of the existing accommodation in the College, and an enlargement of the staff, all involving, of course, an increase of the grant to enable this work to be done. Does it come to this that nothing can be done by the College with its existing grant, its existing staff, and its existing building?—I think I mentioned in that address that it would be absolutely necessary to increase the grants, as the funds remain the same as they were a quarter of a century ago, although the number of students has quadrupled in the mean time.

26124. But it is not very easy to get such grants increased: at all events we are dealing with facts, and taking the College with its existing grant, its existing staff, and everything as it stands, the College does not appear to be in a position to do very much in the way of training teachers in elementary science?—I am not sure of that.

26125. Then what can it do?—The teachers can now enter at a merely nominal fee.

26126. Is there room for them?—There is room for a certain number.

26127. A large number or a small number?—Not a very large number.

26128. That is precisely the point I had in view. The College then is not in a position to do very much in the matter?—Not very much without enlargement.

26129. Taking things as they stand, taking the number of teachers in training in Dublin, say 250 or 300, with that large number, the College is not in a position to do very much for the teachers in training in the way of teaching them elementary science?—If they came all at once, it would be impossible to accommodate them, but they might come in batches.

26130. Even as regards the halls for the delivery of lectures, has the College accommodation for them, no matter how they might come?—Not for so many.

26131. And as to your special branch, for the laboratory or experimental work, it would be out of the question?—Yes.

26132. Of course you consider that it is a serious defect in the teaching of science if it be confined to lectures?—Yes; books are mere channels of knowledge; not knowledge itself.

26133. Do you agree that the science to be taught in the elementary schools should be on general lines, science on the lines of physiology as laid down in the programme of the Science and Art Department?—That very much depends on the capacity of the teacher. The education should be like physiology or be even more elementary, more object lessons, and then pass on to elementary lessons in science in the higher classes.

26134. You must remember that there is the important limitation of time. Do you think it is really possible to teach any one branch of science in any useful way in an elementary school, having regard to the question of time?—I think there would be abundance of time, if time were economised by dropping some of the subjects taught at present.

26135. If they gave up teaching grammar for instance?—Yes, and I pointed out the observations of the president of the English Union of Teachers on the subject of their adopting the metric system.

26136. I think you said in your address that one of the main advantages of scientific teaching in elementary schools, is that it conduces to accuracy?—Yes.

26137. And leads to the formation of habits of observation and of precision in thought and in action?—Yes.

26138. And that it cultivates judgment?—Yes.

26139. And you quote Professor Faraday in support of that view, you also say that it cultivates truthfulness and clearness?—Yes.

26140. What you have to say about kindergarten teaching applies chiefly to the object lessons to be given as a part of the kindergarten training?—Quite so.

26141. This would be the most elementary teaching?—Yes, to the youngest classes.

26142. You express yourselves as to the importance of manual training?—Yes.

26143. You regard it as a very useful branch of school work?—Absolutely essential.

26144. Well, unfortunately it may not be possible to have it in many schools. For instance, where there is only one teacher, and perhaps only one room in which all the work of the school has to be carried on, it would not be possible to have manual training in those circumstances?—With proper arrangements and with a capable teacher it might be done, even under such circumstances.

26145. Do you consider that manual training would have an injurious effect as regards other branches of school work?—No. On the contrary, I think it would stimulate it. The experience in Clifton College was to that effect.

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Nov. 11, 1895
Professor W. F.
Barry, F.R.S.E.

Bahlin
Nov. 12, 1898
—
Professor W. F.
Barnes, C. S. A.

26146 Have you ever heard an unfavourable opinion of the results of manual training in schools from anyone who had practical experience of its working?—No. On the contrary, I believe it is a help to general education.

26147 Do you consider that manual work in the schools, woodwork, for instance, should be based on drawing?—Undoubtedly; drawing underlies most applications of knowledge, and I think it would be very well to begin with it.

26148 You are aware that drawing is now only an optional subject in our Irish National schools?—Yes.

26149 And that it is not very long since it was made compulsory in England?—Yes.

26150 It is still optional in Scotland?—I do not know.

26150a Ought it to be made obligatory here?—Yes.

26151 For girls as well as for boys?—Yes.

26152 What time should be given to it?—I would not like to express an opinion on that subject.

26153 Do you approve of the teaching of science merely out of books, or by means of lectures?—It should always be accompanied by demonstrations.

26154 And, as far as possible, by actual experimental work by the students themselves?—Yes.

26155 They should not merely look on at the experiments, but they should take part in the making of them?—Yes. A great many years ago, in 1874, when the National School teachers were invited over to London to attend a course of instruction, I gave practical instruction to the teachers. I have here the printed notes I made at the time for the teachers of whom I had charge, and amongst them there were a great many Irish.

26156 You have no objection to having some of these printed in our notes on specimens?—Not the least, they are entirely at your service; I believe these are among the rarest printed lessons on practical physics in England.

26157 You consider that whilst the teaching, for instance, of woodwork, in our primary schools is to be strongly encouraged, the schools should do nothing in the direction of teaching trades?—No. I would not allow the teaching of trades.

26158 You would simply teach woodwork for the educational advantages that the teaching of it secures?—Yes.

26159 Mr. STRUTHERS.—You say manual work includes woodwork. Are there not other species of work besides woodwork which have their value, such as cardboard work?—I am not an expert on that subject.

26160 You attach great value to this kind of training?—Yes.

26161 And also to the instruction in elementary science in schools?—I do.

26162 Do you think it would be possible to have them made part of the regular programme?—I think so, unquestionably.

26163 Both?—Yes. Elementary science and also some manual work, or manual instruction, including drawing.

26164 Do you say what time could be given to them?—I think they might run concurrently. I think drawing and object lessons should begin very early in the school.

26165 You are not quite clear as to what classes you would begin the instruction in science?—As early as possible.

26166 You have not formed an opinion as to the classes you would begin with in school?—I should say the younger children should be taught object lessons, which would become illustrated lessons in science, but I would leave the actual operation as to the teaching to the teachers themselves.

26167 You would not expect children of ten or eleven years to do much science work?—No. I should

have object lessons and elementary instruction in drawing objects, and some other easy manual instruction.

26168 And after that the course might be made more definite?—Yes.

26169 But before eleven you would have drawing, object lessons and simple manual instruction?—Yes.

26170 Professor FITZGERALD.—Have you considered the system of Mr. Heller?—No.

26171 That in the elementary course in science the boys are required to make experiments themselves?—It seems very good, but I consider this the aim of every good science teacher.

26172 From your experience, can persons teach others to make experiments without having some experience in doing them themselves?—In teaching children if the teachers themselves can make experiments I think they can teach the children to make them.

26173 The pedagogy of making experiments is very different from the pedagogy of teaching. The pedagogy of managing a class that are making experiments is entirely different from the pedagogy of managing a class which you are teaching out of a book?—Very different.

26174 Therefore instruction and experience in teaching classes out of a book would not enable a teacher to manage a class making experiments?—No.

26175 Don't you think that unless the teacher is trained to make the experiment that the work of teaching would fail?—It is useful, I would say most important, that the teacher himself should be able to make every experiment.

26176 Wouldn't it be necessary that the teacher should be well trained if he has to teach a class to make experiments?—It would, certainly.

26177 Manager MOLLAT.—You said that it would be a great saving of time if the metric system was taught?—Yes.

26177a Would you be in favour of teaching the metric system only, and not teaching the English system?—That would now be a difficult matter, and it would take time.

26178 But if you do not teach the English system, then the children will not know the weights and measures in use in this country?—They would not have to spend so much time in mental gymnastics.

26179 Is it not the misfortune of our present condition that we have to learn two systems, the English system for the common business of life, and the metric system for scientific purposes?—Yes.

26180 Mr. MOLLAT.—Is there not a certain amount of elementary science in the kindergarten system?—In well taught kindergarten there is. In some of the schools in England no doubt there is.

26181 I understand that you think that experiments in chemistry and the teaching of the principles of chemistry should be deferred till the higher classes were reached. Do you think it important that the children when learning lessons should be taught from the earliest infancy to take an intelligent interest in the objects round about them?—Yes.

26182 CHAIRMAN.—I should like to put to you two questions which I put to Dr. Gladstone, when he kindly came to give us evidence in England, to see whether your view coincides with his (reading):—

"If you considered that the plan as had in view was one that would leave it perfectly open to the teachers to teach science exclusively out of books, without other performing an experiment, or having an experiment performed, from the beginning to the end, or without letting the pupils ever see anything connected with physical science, except justly a text-book, would you advise us to go on, or would you seek to dissuade us?"

There can be no second opinion there. Science de-
f-

with in that way becomes a mere matter of books, like history.

26183. And, of course, you would not have it so then here was the next question (reading)—

"Suppose, moreover, that our contemplated system was to be one in which the result of the teaching, or so-called teaching, of science was to be tested only by an examination selected exclusively in writing, and conducted on such lines that a boy might get the highest possible marks who had never performed an experiment or seen an experiment performed, or had never seen any scientific apparatus, one of the most rudimentary kind?"—

It would be perfectly worthless.

Rev. FRANCIS REAN, F.R., St. Joseph's, Dublin, examined.

26185. CHAIRMAN.—You have had some interesting experience in the matter of evening schools and night schools in the city of Dublin?—Yes, your Grace, I have been experimenting in the matter for some time.

26186. Tell us the result of some of your experiments?—I tried a night school first thirty years ago in the village of Maynooth, and as long as I stayed there it was a very considerable success. The boys attended regularly and a great deal of good was done, but I don't know what its fate has been since I left the place. I had not much opportunity of doing anything in the matter afterwards until I got charge of my present parish in the city here in 1890.

26187. You established a night school shortly after you were appointed parish priest?—Yes, in September, 1890.

26188. I believe the school was not particularly attractive, as regards either its internal fittings and equipment, or the school buildings generally?—It was certainly an extraordinary place. We were lodged in a hay-loft for four and a half years, a hay-loft over a stable, in the lane at the back of Rooster-street.

26189. Notwithstanding the unattractive character of the school building, did you find the poor children willing to come to it?—Yes, the very first night we were able to get 120 boys of a rough class, though we didn't promise to give them anything, except to examine them and give them a slate and a pencil.

26190. You found then that these poor boys were quite willing to learn?—Yes, during the four years there, and up to the present time in our new school, we found they were only too willing to learn.

26191. What were the ages of the boys?—From twelve to seventeen years. At first we had a difficulty to get teachers. Of course the National Board refused to recognise a school in a hay loft, and then the poor fellow I had as a teacher, though he was exceedingly good in many ways, did not seem to be quite right in his head, and he fell out with the pupils.

26192. I believe he was not sufficiently skilled in pugmism to be able to hold his own with one or two of them?—That is so. Sir Patrick Kenan, when he saw the eagerness of the boys to come to the school, sent an inspector to the place, and offered to stretch a point to have the school recognised, and it was recognised in January, 1891.

26193. How many boys had the school then on its roll?—That year the exact number on the roll was eighty, the average nightly attendance was thirty.

26194. Things have greatly improved since then?—Yes.

26195. You have moved out of the hay loft?—Yes; we have a decent school now. In the new building in Dorset-street we opened a night school last year, and the number on the roll has increased.

26196. The school where the boys are now taught in the evening is in the fine school building in Dorset-

26184. And again (reading)—

"And you would probably add that the less there was of it in a country the better in the interests of science?"—

Yes; I quite agree with Dr. Gladstone. Perhaps I may mention a matter to illustrate that. I knew a gentleman who took a high degree as a Doctor of Science, and he afterwards entered a laboratory for the first time in his life, and he saw there a convex and concave mirror. He asked me what they were, and when I told him he said he always thought the convex was the telescope, and when I drew a section of them he thought the pictures represented portraits of cylinders.

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street where you have an ordinary National School in the daytime?—Yes.

26197. Do you still find that the boys are ready and willing to come to the night school?—Yes. In the quarter ending April, 1897, we had 114 on the roll, and in the quarter ending June last we had 116. Some people appear to think that it would be better to have the boys attending the day school, and that these night schools interfere with the day school, but that is a mistake. We have a strict rule on the subject, which is carried out by personal examination, and the moment we discover that a boy is there who is able to attend day school—though we might, of course, stretch a point in some very exceptional cases—we insist that he must leave the room at once. We have at present a nightly attendance of ninety boys, and I must say their diligence is most remarkable. I have been singularly fortunate in my teachers. Even the poor fellow I had at the start was a most excellent man, and he managed the boys for a time very well. Only for the help I got from the teacher, Mr. Hanly, who was the first regular appointment when the school was placed under the National Board, and the self-sacrificing spirit he showed, I could not have got on at all. He was the principal in the day school, and after his hard day's work in that school with such a crowd of poor boys, he came in the evening and taught in the night school for a mere pittance. The salary given by the Board is, of course, wholly inadequate.

26198. Only for help of that sort you would not have been able to carry on the good work at all?—No. I don't blame the National Board, but I must say that with only the Board's existing arrangements for night schools, the thing would be impossible to carry on.

26199. And probably the teachers who would come to you for the pittance that has up to this been allowed by the Board—which, I think, is as low as £1 a month—would not be of a class you would desire to have in charge of this specially trying kind of work?—Unless a man is almost starving he would not come.

26200. What is paid for a night school?—The regular pay is £1 a month for each twenty-five pupils, and if one of the pupils missed even a day in the month, and you had only twenty-four, the teacher would get no pay at all. There has been an instance where we had an attendance of forty-eight, and as we didn't bring it up to fifty the teacher got only £1.

26201. The standard is £1 per month for each twenty-five pupils?—Yes.

26202. In addition there are the results fees, but of course in such schools, from the necessarily irregular attendance and other causes, the results fees do not come to much?—No, the results fees are not much. A boy must make fifty attendances in order to entitle the teacher to get any results fees for him, and what between irregular attendance, and the necessary dullness of the boys, the results fees never can come to

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much. This class of boy is mostly of wild habits, and has not much taste for an examination, yet the very wild ones are eager to come occasionally, not seldom poor little chaps selling evening newspapers have run in with their bundles under their arms for even a half-hour's instruction.

26203. You consider that if night schools are to be made effective, there must be a substantial increase of the present wretched pay of the teacher?—Yes; and of course there is no provision made now for such expenses as lighting, heating, and cleaning the school, which have to be provided for out of other resources. The fullest income that I had for a teacher for four years from the Board was only 8*l.* a week.

26204. And you had to raise funds yourself to pay him?—Of course I could not ask a teacher to teach unless I saw him paid suitably.

26205. You had to pay the extra salary to him, and besides you had to provide the necessary apparatus for the school?—Yes.

26206. You have considered a plan for improving the existing state of things?—Yes, your Grace.

26207. Your view, I think, is that the present system of having four or five hours a day of school work in boys' and girls' schools should be broken up, and that there should be a morning school and an evening school?—I think that would meet the difficulty.

26208. But there are many parts of the country where that would have the effect of making the full school attendance very difficult, or indeed impossible?—Yes; but it might be left optional to managers to have either the present system, or the system of two separate attendances in the day.

26209. Now do you think that this change would go to remedy the present condition of things?—Yes, if that optional arrangement were open to managers, the first thing of course would be to consider what need the district had of a night school. I find on the roll of my night school 216. My parish represents less than a twelfth part of the city. I gather then that Dublin has about 3,000 boys available for night schools.

26210. We have fourteen parishes in the city, and you are in charge of one of the fourteen?—Yes, your Grace. The question then is, how you are to teach these 3,000 boys. But, if the present system of four to five hours continuous day school was changed into a morning school, of, say, from 9.30 to noon, and an evening school, say, from 6 to 9 o'clock, the teaching staff of the morning school would be available for the evening school, and the teaching in the evening school could embrace manual and practical work, which should greatly attract the boys.

26211. Then you think it would be some help to the practical instruction if such a change were made in the present school hours?—Yes, particularly with regard to girls' schools. For the teaching staff of infant schools, if the change were made, would be available to teach practical things to grown girls in an afternoon school. It seems a cruel thing, and a great waste of money, to be keeping infant children on through an afternoon school, their little energies quite spent, and the large staff half idle.

26212. What do you suggest should be done?—I say the infant children should be got into the habit of being in school at half-past nine o'clock, and they should be sent home about twelve o'clock, and then the full staff would be available for teaching the grown girls, teaching them dress-making, cookery, and such things.

26213. That would not be an evening school?—Yes; for supposing the change to have been made, the grown girls, too, would have gone home from morning school, and could return, say from 4 to 6 o'clock, for instruction in practical things.

26214. Then the infant school-day would be only a day of two or three hours?—Yes, and the teachers who are now wasting their energies on the infants would

be available for the grown children?—I think for the teaching of kindergarten and that to infants two hours is quite enough.

26215. I believe there is a large increase in the number of infants now attending school?—Yes. To show the way we manage with the infants, I may say that we found it impossible at first to get them to attend early in the morning. I tried a little plan. I caused a pleased to be put up in the school, announcing that all children, boys and girls, who were in at 10 o'clock, would get a treat or an excursion in the summer. The result was that the attendance in the infant school was greatly increased.

26216. You think the children could be got to go to school earlier than they do?—There is the proof of it.

26217. Quite apart from that fact, is there not a very notable increase in the attendance in the infant school?—Yes. The kindergarten is a great inducement to children to attend school. They don't consider it school at all. Some people think it is a dreadful waste of time, but my view is that it is most important. It makes the school hours for children very light, and develops their faculties in a manner that I never knew of before.

26218. Captain SHAW.—You have the ordinary programme of the National Board in your school?—Yes, —reading, writing, and arithmetic.

26219. Do you think it would be quite possible to teach laundry work in your school?—Yes, we do it. We have cooking and laundry. We have had one of the pragmatic teachers, Miss Andrews, for two months in the girls' school, and she has given the greatest satisfaction. Before she came one of the ordinary teachers taught cookery, but the lessons had to be given outside school hours, from 3 o'clock, when teacher and pupils were weary.

26220. Do you think it would be possible to run an evening school for cookery and laundry, and that the children would come?—I am quite sure they would come in the evening. The very promise of these things would induce them to keep on at school.

26221. Do you think your boys would like to be with boys who were educated all their lives, and who go to the sixth standard?—Would they have any feeling against it?—Practically we have tried that experiment in the night school. After my experiment in the day left, I got for the new school an exceptionally high-class master, and I allowed him to have a special class or desks which were apart from the ordinary night school desks, and the children had not any feeling against it. On the contrary the presence of the very high-class boys working so intently at their lessons had a very good effect upon the other children. I may say some of these high-class boys got very good places in the Civil Service examinations.

26222. You think it would be possible to run an evening school such as you describe concurrently with classes in elementary science and other advanced work?—Yes, if you have sufficient room. One of the boys I refer to got a clerkship in Westminster, another passed for the Customs, and another for the National Library, and they all passed well.

26223. GRAMMAS.—I believe there is a committee of gentlemen in your parish who interest themselves very much in your school work, especially in connection with the evening school?—Yes, in connection with the St. Vincent de Paul Society.

26224. They offer a number of prizes for steadiness and for attendance?—Yes.

26225. Mr. HANSEN.—I think you estimated that there were 3,000 children in the city who do not attend any school. I suppose these boys are either waifs or they are employed in business houses?—They are mainly employed during the day.

26226. Does the St. Vincent de Paul Society contribute anything to the maintenance of the night school?—I hope at the next quarterly meeting that they will, but they have not so far.

26227. I may say down in Cork the St. Vincent de Paul Society have to contribute to these night-schools, out of their own funds, money that should be more properly payable by the National Board?—I hope they will kindly do the same here.

CHAIRMAN.—I should rather see it done by the National Education Board.

26228. Mr. HARRINGTON.—Are there any other night schools in the city besides yours?—There is a very successful one in Chancery-street, and there was a very old-established one in North Anne-street twenty years ago, and that one had some endowment, I think.

26229. CHAIRMAN.—You used to attend there when you were a curate in the district?—I used to spend my evenings there.

26230. CHAIRMAN.—There is also one in Leeson-street, in charge of the nuns; it is doing excellent work, but it has no connection with the National Education Board.

26231. Mr. MOLLOY.—I believe in answer to his Grace you summarised the Board's restrictions on the night schools which required a remedy as being the fact that the remuneration of the teachers is inadequate, and that there is the difficulty about the presentation of pupils for results fees; also that the teachers had not a free hand regarding the general course?—The hardest thing is the money.

26232. Isn't that owing to the fact that the school having been recently opened, the children were not sufficiently qualified in the short time that elapsed from the opening?—In the summer evenings, owing to the rough climate who attend, the night school is quite a failure, as the boys would not come in.

26233. Is it your opinion that the restrictions of the Board is responsible for the fact that there are virtually no night schools in Dublin except the ones in Dorset-street and Chancery-street?—The nuns have one in Leeson-street in connection with the convent. There are no restrictions of that nature that would prevent the actual extension of night schools.

26234. Your idea is that instead of an afternoon session there should be an evening school?—Yes, I don't think there would be any difficulty if the system is changed, and if you were to go in for morning and evening schools. Getting home after the morning school the boys could go of message, and then they could go back from 6 to 9 o'clock. Let the morning session be over at 12 or 12.30, and have the

roll called at half past nine o'clock, and it would not be a hardship on the teacher to attend again in the evening, for he would have three or four hours in the middle of the day, if he is paid as he ought to be paid.

26235. What kind of work should be done in the day school?—I am only dealing with one boy, and that is the lad of the evening school—you have to make special arrangements for him. You can call it technical education and teach manual work.

CHAIRMAN.—It is better to speak of manual instruction, not technical education: the word technical is misleading, especially from the loose way in which it is used.

26236. Mr. MOLLOY.—Have you considered how long the morning session should be?—There should be a short morning session. The greater number of these boys do not attend school at all, and the reason they make is that they have to go on messages—to go with their father's dinner, generally, and it is often really so. If the boys were allowed off at 12 or 12.30 then he could go for these messages, and he would be encouraged to come back and use the evening school, if that arrangement were made for him. In Belfast there is an arrangement made for factory and working boys and girls.

26237. Half-timers, with two hundred days for results fees?—You could make it 150 days for results in such schools. Another great advantage of the morning school would be that the little children, the boys and girls, would go home to dinner at the hour when the dinner takes place in their homes, and it would do something to encourage home life.

26238. Your experience is that there is no practical difficulty in getting the pupils to come earlier?—Yes.

26239. This could be done better in a town school than in a country school?—I don't know. In the country the children are in bed early, and often the farther they have to come the earlier they are. The children two miles away come early, and those next the school take their time.

26240. You attribute the success of your night school to some extent to the co-operation of the members of the St. Vincent de Paul Society?—They have begun well, and I have every hope they will continue so.

26241. And there are similar good results under that society in connection with the Chancery-street night school?—Yes.

Dublin,
Nov. 15, 1897.
Rev. Pres. &
Excs., &c.

FIFTY-SIXTH PUBLIC SITTING.—FRIDAY, DECEMBER 17, 1897,

AT 3 O'CLOCK, P.M.,

At the Ancient Concert Rooms, Dublin.

Present.—THE RIGHT HON. THE EARL OF BELMONT, G.C.M.G., in the Chair; HIS GRACE THE MOST REV. WILLIAM J. WALSH, D.D.; THE RIGHT HON. C. T. REDINGTON, M.A.; HIS HONOR JUDGE SHAW, Q.C., LL.D.; THE RIGHT REV. MONSIGNOR MOLLOY, D.D., D.S.C.; REV. HENRY EVANS, D.D.; REV. HAMILTON WILSON, D.D.; PROFESSOR G. F. FITZGERALD, F.R.C.D.; STANLEY HARRINGTON, Esq., B.A.; W. B. J. MOLLOY, Esq.; CAPTAIN T. B. SHAW, and J. STRUTHERS, Esq., B.A.;

with J. D. DALY, Esq., M.A., Secretary.

Professor WALTER NOEL HARTLEY, F.R.S., Professor of Chemistry, Royal College of Science, Dublin, examined.

26242. CHAIRMAN.—You are Vice-President of the Institute of Chemistry of Great Britain and Ireland?—I am.

26243. And you are also a Fellow of the Royal Society?—Yes.

26244. And Professor of Chemistry and of Applied Chemistry in the Royal College of Science, Dublin, since 1879?—Yes.

26245. And you have had a good deal of experience as an examiner in various places?—I have.

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26245. With regard to the question of the advantage or otherwise of teaching practical science in elementary schools, will you give us your experience of and acquaintance with the methods of teaching science in the principal universities of Germany and in Scotland, and in science schools and public and private schools in Great Britain and the Colonies?—I myself studied in the University of Edinburgh and the University of Marburg and, therefore, as I visited those universities for the purpose of studying science, I am quite acquainted with the methods pursued there. The usual course is for practical work to be pursued with a course of lectures, and in the case of the more advanced students the work is pursued to the point where investigation and original research are the subjects of the student's work. The teaching, as a rule, in schools in Germany does not, except in those advanced schools, such as technical schools and the gymnasium, does not include science strictly speaking, but they have scientific ways of dealing with the ordinary subjects, such as drawing, and descriptive geometry, and this, no doubt, has a very beneficial influence upon the general education of the pupils—so that when they come to the university they are able to take up with greater advantage those subjects which are special science subjects. As regards the examination of pupils in science schools throughout Great Britain, I have examined a very large number, in conjunction with two colleagues during six years, amounting in all to about 216,000 papers in all grades of chemistry, going from the elementary stage to the honour stage in both practical chemistry and theoretical chemistry. The result of this has been that I have found a large proportion of the pupils in these schools have profited very considerably by the instruction, and the teaching has been extremely good. But in a certain portion the teaching appears to have been more or less empirical; the pupils have been taught a large number of facts, but they have not been able to grasp the subject by reason of their not being instructed in theory.

26247. You are alluding to the subject generally?—I am dealing now with chemistry, in which I have specially examined in schools throughout Great Britain and Ireland under the Science and Art Department, and also in schools which were examined by the College of Preceptors. The third portion of the pupils who have been examined show little or no knowledge of the subject, on account of their having evidently been coached in repeating portions of text-books, or it was knowledge which had been conveyed to them by the teacher, and taken down by dictation. We have the questions so framed that we can determine whether a pupil has been taught practically or has been simply learned to, or whether he has been taught by passages repeated out of a book to him. I, perhaps, may mention that in schools generally in England it has been found that one or two branches of science should be taught, and indeed they are now considered as necessary elements of general education, and there have been some sciences in which practical work is recognised as essential, and the two branches of science that are generally selected are physics and chemistry. And in many of the public schools and grammar schools these subjects are now taught extremely well. Some of the teaching in the higher grammar schools is so excellent that it is recognised as quite equal to that in the university colleges of the neighbourhood. This certainly is an advance that has been made within the last fifteen or twenty years. The distinction, which, I think, should be drawn between this kind of science teaching and that which is called technical education is this, science teaching is really regarded as a branch of general education, and a committee of governors of public schools in England, who are Fellows of the Royal Society, lately passed a resolution to the effect that these subjects were necessary elements of a general education. Chemistry and physics, on account of the

necessary experimental work that is required of them, are then not in any sense technical. Technical instruction—or I would rather not use the word technical, because a general education is the basis of all that follows, whether technical or not—but technical instruction is merely specialised scientific education. Technical problems are essentially scientific problems, complicated by commercial requirements or economic questions, so that I would draw a marked distinction between science and technical instruction. I would then place a sound general education in scientific methods as a necessary basis for technical instruction subsequently, and, as I have remarked, such teaching should be carried out both in the lecture-room and the laboratory.

26248. What do you say as to the possibility of giving young pupils very useful elementary lectures in practical instruction in schoolrooms, using very simple apparatus?—I believe that a very great deal of advantage can be given by a modification in the instruction which is given in schools at the present time by object lessons, accompanied by a certain amount of experiment, which is done by the pupils themselves, but this should be carried on very carefully, and with very great discretion, because it is apt to break down, the utility of it is apt to break down unless that is so. The pupils, unless they have very definite explanations given them, are sometimes inclined to disregard the instruction which they have obtained.

26249. You think there is no necessity for elementary teaching to be of a technical character?—I think, certainly, it is a greater advantage when the pupils arrive at the age of twelve, from twelve to fifteen, that they should have definite instruction in some branch of science, such as chemistry or physics, or the two together, but for very young pupils a sort of general instruction by means of object lessons and little experiments, which they can make themselves, is extremely useful.

26250. You think that technical instruction should be delayed until the principles of science have been taught, and grasped by the pupils?—Yes.

26251. Otherwise, you think that the efforts of the teacher would be unappreciated and rendered futile?—I think so, certainly.

26252. Have you any further remark upon that subject?—Not upon that point at all.

26253. Then, regarding the question, as to whether the Royal College of Science would be a suitable institution for the training of teachers in science, and whether teachers could be trained there, judging from your experience, what do you say upon that point?—As an institution for training teachers there can be no question about that, because the training is that which is given in the universities in Germany and the principal universities in Scotland and in England, and the teaching results really in teachers being appointed elsewhere who have been trained in the College.

26254. Teachers of science, who have come to occupy distinguished positions elsewhere, have been trained in the Royal College of Science?—Yes. But a training station, of course, in some special branch of science, there is a general training in two or three separate branches of science, and then the teacher takes up some special subject.

26255. What are those two or three branches?—Usually chemistry, or physics, or zoology, or botany.

26256. What time is devoted to teaching a subject?—The time to be devoted to each subject would be, in any case, not less than a year. But supposing there were two subjects taken, and I should not recommend more than two subjects, that would mean two years' study entirely devoted to those two subjects.

26257. Do you think that the teachers, to study with advantage, should attend a course of lectures, delivered by the professors?—Certainly they should attend the lectures, because the lectures should be models of exposition which the teachers themselves

afterwards should follow, and it is a distinct educational advantage to the teachers that they should attend such lectures.

26258. Should the course of lectures so delivered, as far as possible, deal with original methods of research, and serve as examples in the art of exposition?—Certainly.

26259. Do you think that definite work should also be undertaken by a selected number of students, according to the ability they may show?—I do.

26260. Could arrangements be made for a certain number of teachers, showing special aptitude, to be trained at the College of Science?—That is certainly the case, but no very large number could be accommodated at the present time. I may mention that just used the last few days my laboratories have been so full that students would have to be turned away if they applied for admission, and this occurs nearly every year, so that unless there is a certain number of applications which are made early it is likely that those who apply would not be able to gain admission to the College. Of course it is very necessary that those who come should enter at the beginning of the session, in October, when the course in elementary lectures commences.

26261. Judge SNAW.—You say that without teaching any special science the children in schools might be taught the elementary principles from object lessons and by simple experiments?—I quite think that very great use could be made of a course of instruction in which the young children can have object lessons and experiments, which they make by themselves, limited to a certain scope.

26262. Would it be necessary for the teacher in such a case to be specially trained in any one science. What I want you to come to is not what you think desirable, for, of course, we would all think it desirable that teachers should have as much training in science as possible; but would it be absolutely necessary in order that a teacher might, with some degree of usefulness, give those elementary lessons in general scientific principles—teaching children in observation and accurate measurement—would it be necessary that the teacher should have a special training, say, in chemistry or physics?—No, but I think he should have a special training in this kind of teaching.

26263. That he should be specially trained to teach?—Yes, by a scientific man.

26264. Suppose it were necessary to train a teacher, not in chemistry, or physics, or zoology, or botany, but to train him for this elementary teaching in schools, would the College of Science afford any facility for that kind of training?—I am afraid it could not very well.

26265. Your classes are entirely devoted to some one branch of science?—Yes, there is a professor for each.

26266. And if we wanted a number of teachers trained not to teach any science specially, but to give this elementary instruction in the general principles that underlie all science to children, there is no special facility in the College for that kind of training?—No, there is no special facility for that.

26267. You say, as I understood you, that for a man to teach science he ought at least to have two years' training in the College of Science?—Yes.

26268. Do you think that it would be possible in a comparatively short time to train a teacher?—I mean, under a skilled organizer or teacher—to train a teacher to give object lessons and to show the children elementary experiments; do you think it would be possible to do that within, say, six weeks or so?—Well, that certainly, first of all, drawing up a syllabus, and the syllabus should be carefully drawn, then it entails the professor who should take charge of this work instructing a number of students to be able to carry out the work properly, and those assistants should be engaged subsequently in instructing teachers under the direction of the professor, so that it is a system of instruction which is entirely novel, which is not strictly

confined to any one branch of science, and is, therefore, not what I think could be carried out exactly by the College of Science, but some arrangement might be made for a course of instruction like that, and a syllabus could be drawn up.

26269. What we have had before us chiefly in reference to that matter is the Schedule H of the Elementary Education Department in England; I don't know whether you are familiar with that?—I am not familiar with it at all. I only knew it from discussions that have taken place from time to time, in which one or two of my friends have been interested. I may mention Dr. Gladstone and Dr. Armstrong.

26270. Have you read any of the evidence that has been given by these gentlemen?—Last night or the night before I glanced through the evidence they gave before the Commission, and, to a great extent, I agree with it; but I think the kind of work has been pushed too far; in some cases it has gone beyond what is really intended.

26271. I don't understand exactly what you mean?—I mean to say that so far as I can gather from the evidence of Dr. Gladstone the work which was carried out under the syllabus originally drawn up by Professor Armstrong has been greatly improved upon, because he drew it up on lines which were more strictly those on which a chemist would draw it up, and those who were engaged in the instruction under him subsequently developed it by making the facts more general—the information obtained was of a more general nature.

26272. Less specialized?—Yes.

26273. Do you think that is an advantage for the schools?—That, I think, is decidedly an advantage. I think that is what should be aimed at. I think it should not be at all confined to any one branch of science.

26274. And don't you think that that kind of teaching—teaching children to observe phenomena—to give an accurate account of what they do observe, without going into scientific explanations or theories, don't you think that is the best sort of introduction to scientific teaching?—Oh, decidedly, it is what I call common information.

26275. The common information is the basis of all science?—Exactly.

26276. As a matter of fact, I understand that at the College of Science you have trained some of the most successful of these organizers of science who have gone to England and Scotland?—Yes.

26277. Could you tell us who they are, any of them?—There is Dr. Reilly, at Hull, the director of the technical schools there, I am sorry to say I have not brought a calendar with me; there is one at Manchester, and another at Bradford, and there are a number of teachers scattered over the country, I am sorry I have not got their names.

26278. Monsieur MOLLET.—Professor Stewart was one?—Yes, he is one.

26279. Judge SNAW.—Are these men teaching special branches of science, or are they organizing science instruction generally?—Dr. Reilly is the head of the College, and also the gentleman at Bradford is head of the College and Director of all the studies in the Technical Schools. Then we have a former student, Mr. Parry, who is the Demonstrator of Chemistry in the University of Cambridge. There is Mr. Sworn, who is lecturer on chemistry at the Grosvenor Technical Schools, he was trained in our College, and there is also Mr. Coleman, who has been recently appointed to the West of London Technical School, as the Lecturer in Chemistry there.

26280. Then I suppose if we wanted organizers in schools to set going the elementary form of scientific instruction, to teach the teachers, you could supply us with men occasionally from the College of Science?—I have no doubt we could.

26281. Suppose you took a teacher who has been a considerable time in the service, and has never up to the

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present taught in this way, or taught those subjects in this way, do you think he could be easily trained to teach?—Well, I think in some cases out of ten he could not be trained to teach efficiently in this manner. It is very difficult to train a master who has already been accustomed to instruction of another kind. In some cases where they have had a little instruction in science, or have read, as a matter of interest, scientific books, it might be possible, but I think in most cases out of ten it would be extremely difficult, if not impossible.

26283. I suppose you don't consider that this instruction would be of much use if it was not given by a thoroughly qualified and enlightened teacher?—No, it would be, in most cases, worse than useless; it would be injurious.

26283. Rev. Dr. Evans.—You think that your College might be able to aid us in training teachers to teach elementary science in our schools?—Yes.

26284. Do you draw a distinction between training teachers to teach and instructing teachers in the knowledge of science itself?—I don't quite understand your question.

26284a. I want to get at what you mean by training. Do you understand by training instructing persons in science, or teaching people who already know something of science how to teach it?—No, I take it that scientific training is training both by lectures and practical work, and this work so carried on as all scientific research is carried on, and when a student has been trained in this way he is capable of teaching. In some cases he may not be capable of teaching, because it is not every scientific man who can teach, but we can always make a selection of those who are the best and most competent of those trained with us, and who are eventually good teachers—there is a weeding-out process year by year—and it is only those capable who receive certificates or diplomas.

26285. Do you believe that elementary science can be usefully taught in the primary schools?—Well, I would put it at the fifth class, for instance. I believe in the syllabus of the Board at the present time—the Board of National Education—in the fifth class there is chemistry prescribed, and that is the proper time to prescribe a course of elementary physics and chemistry, both taught practically as well as by lectures.

26286. Have you any experience as to the capacity of these Irish teachers?—None whatever. I have never come in contact with them.

26287. So that you could scarcely now form an opinion as to whether they would be suitable men to come in to you for training as a body?—No, I could not at all express an opinion on that matter.

26288. Rev. Dr. Wilson.—Do any students in your classes contemplate becoming teachers in the higher schools?—Yes, I think that a good many of them so frame their course, or rather pursue such a course of studies in the College, that they may be either teachers or take up some professional course as engineers or officials under the Board of Works or in the Valuation Office, but if a good opportunity occurs, and they can get the necessary recommendation from their professors, they take up teaching as their aim in life.

26289. Do any of them contemplate taking part in the manufacturing industries of the country?—Oh, yes, most of them take to me.

26290. You consider chemistry a most important branch of study for these manufacturing industries?—Undoubtedly.

26291. Is the spread, do you think, of the study of chemistry proportionate to the spread of the manufactures of the country?—Yes.

26292. Is it increasing?—Yes.

26293. Mr. HANNAH.—Have a large proportion of the students who come to the College of Science a previous knowledge of science?—They have had, as a rule, no scientific training before they enter the College.

26294. So I should say that the College here in Ireland suffers a great disadvantage, as compared with similar institutions in England and elsewhere, where science is taught in the elementary schools?—Oh, certainly, they are all at a disadvantage, all our students on that account.

26295. Is there a considerable proportion of English students in the Royal College of Science?—No, last year we had only five, this year I don't exactly know how many there may be, but I should think not more than, at the outside, nine students from England. I cannot say whether those who are resident in Dublin are English or not—I take it they are probably not. At any rate, we have only, so far as I am aware, about nine in the College at the present time, and they nearly all pass through my laboratory and lecture room, so I am pretty well acquainted with the students as a body.

26296. Professor FITZGERALD.—As I understand from the abstract that we have been given, the College of Science is specially devoting itself to training people who would be teachers in more advanced schools than primary schools?—Oh, certainly, yes.

26297. Do you think that the College of Science could aid us much in providing teachers in primary schools with science instruction suitable to them?—That is a question which I think I have dealt with, if what I understand is the course contemplated for primary schools, it is not exactly what I call science, it is common information on ordinary facts reported to the pupils by way of object lessons and by simple experiments which they carry out themselves, but it is not an instruction in any one branch of science or the elements of two or three branches, it is not exactly scientific instruction.

26298. You object to its being exactly scientific instruction?—It is not exact.

26299. Why should it not be exact?—The way in which it is carried out, the operation of such teaching is this.—Supposing you have a teacher with a number of common objects, such as salt, and lime, and chalk and coal, or salt, chalk, coal, and something else, any other stone or a piece of wood, he shows them to the boys, and asks them to make experiments on these—say, for instance, by burning, and they having carried out the experiments and got certain results, note them in their own little note-books in their own language, in nine cases out of ten it is very satisfactory; they have inferred themselves of certain facts, but there is generally one bright intellect in such a class, and that boy will bother his teacher to know why these things are different and it is there where the system breaks down, because the teacher who is not a scientific man fails to explain them, and I draw a marked distinction between the teaching of science and the teaching of common information by experiments and objects which are experimented upon.

26300. But supposing the teaching takes this form—you give them a piece of paper and ask them to determine the amount of ash by accurate weighing, would not that be an exact determination?—But what does it lead to?

26301. Is leads them to observe that there are different constituents in the paper, some of which can be burned and some of which cannot?—That is common information, it is not science.

26302. If you show them that the part that is burned away is the same substance as comes by acting on chalk with a certain acid, would not that be leading them to scientific generalization?—I don't take it that way at all, it is simply common information obtained by an experiment, which you may say necessitates the use of scientific instruments—the balance.

26303. Where does science begin?—You must have a scientific theory for the explanation of facts which are not self-evident.

26304. You must lead them to that by means of experiments?—You then go into a different class; that is not dealing with primary schools.

26305. Do you think anything of that kind can be introduced into primary schools at all?—Teaching such as we have been discussing, I think, is a very proper kind of teaching for a primary school.

26306. Do you not think that children could frame hypotheses and test their hypotheses in a primary school?—No, but I say they should have a distinct scientific education, which should come later on.

26307. Then you think the framing of hypotheses and the testing of them could not be introduced into primary schools?—I think not, not at that stage; it should be given in the teaching of distinct branches of science, such as chemistry and physics. But that kind of teaching we have been discussing is useful only for what I may term infants, those who are not acquainted with elementary mathematics.

26308. But the primary school goes long beyond that; there are children of from twelve to fourteen in the primary schools?—Are they capable of solving equations?

26309. Quite capable?—Then I think they ought to get a much higher instruction.

26310. Then do you think that science instruction could be given in primary schools?—Certainly.

26311. Do you think you could provide us with the training for teachers who could give that instruction?—Undoubtedly, we have them.

26312. Judge BILAW.—I understand you to say that a man might be perfectly capable of directing children's attention to phenomena that they were to observe and yet not be able to give the scientific explanation that some of them might look for?—That is exactly what I wish to impress upon Professor Fitzgerald at the present moment.

26313. I understand you to say that a bright intelligent boy might be looking for and seeking after scientific information, and find the teacher could not help him at all?—Exactly.

26314. Although the teacher might be fairly well able to direct attention to the phenomena that had to be observed?—Yes.

26315. Mr. MAGNER MCGRAW.—I should like to know is there such a thing, in your opinion, as elementary science?—Well, there are the elements of science.

26316. You are not clear that there is such a thing as elementary science?—No, I think once one commences to study a branch of science—

26317. Then, if a person commences to study science—I suppose you will admit that there is a beginning of the study of science?—There is.

26318. Do you think that such a beginning can be made in primary schools?—It depends entirely upon what you consider the beginning.

26319. You admit that there is a beginning in the study of science?—There is.

26320. Can that beginning be made in primary schools?—Certainly.

26321. Do you think it desirable it should be made?—I think certainly most desirable.

26322. Do you think that such a beginning made in primary schools would help the pupils to profit afterwards by technical education in more advanced schools?—What is the basis of all technical education is a good general education, not necessarily a special scientific education.

26323. I am asking you about that beginning of the study of science which you have in your mind as necessary if a person is to study science. Would that beginning if introduced into primary schools, as you say it can be introduced, would it be a help to enable the children who had obtained it to profit by instruction in technical schools afterwards?—Yes, because it is a part of general education, which is the basis of all technical education.

26324. Do you think that at present in Ireland the attempts which have been made to give technical

education have been greatly hampered by the want of such a beginning in the primary schools?—I do.

26325. Most Rev. Dr. WALSH.—You object to the use of the term "elementary science"?—Yes, I do object to it. I can understand "elements of science," but not exactly "elementary science."

26326. Do you think it makes any practical difference whether this branch of school work be called the elements of science or elementary science?—Well, I think it does. I think there is a difference. The information that is conveyed to the pupils by the course of instruction which we have been discussing I don't look upon exactly as even elementary science.

26327. Is the term "elementary science" not in recognised use amongst scientific men?—It may or may not be, I cannot say—I am just giving my own view.

26328. So that you are now stating only a personal objection of your own?—Yes, my own personal view.

26329. Now, let me ask you this. You were asked some questions about Course H in the English Education Code. You said, I think, that this course was drawn up by Professor Armstrong?—Yes, I am not acquainted with the Code. I have had personal discussions with him from time to time.

26330. May we take it that it was probably drawn up by Professor Armstrong?—I believe it was.

26331. Now kindly look at the page of the English Code where that Course H is contained (handing book to witness). You see the heading of it there?—Yes, "Elementary science."

26332. So that this branch of school teaching that we are now speaking of is officially known in England by the very name that you find fault with as for using, "elementary science"?—This is for the Board schools.

26333. Oh no, it is for all the primary schools?—Not all primary schools, but the Board schools.

26334. Excuse me, I am very well acquainted with the publication. It is the official Code issued by the English Education Department, and it is not at all exclusively for the Board schools, but for all the primary schools resorting and from the English Educational Department?—Oh, I beg your pardon, I did not see the title. Then I don't think that was drawn up by Dr. Armstrong.

26335. But you see that it is the official publication from the Education Department in England—it is the official English Education Code?—Yes, I see that.

26336. And do you see that in that official document the official designation given to that branch of schoolwork is "elementary science"?—I do.

26337. So that it is plain, not only that your objection is merely a personal objection, but that your view is at variance with the view officially taken in England?—Certainly.

26338. Have you any experience in the work of primary schools?—I have none. I have never been a teacher, neither have I drawn up a syllabus for primary schools.

26339. You have experience in connection with secondary schools and with colleges?—Yes.

26340. And with universities?—Yes, the University of Wales and the Royal University.

26341. But, as far as you know, the students whom you may have examined in connection with these various bodies were not students of primary schools?—They may or may not be; I have no evidence as to what they are. The Science and Art schools may be schools, for instance, be under the Intermediate Board, or they may be under the National Board. I have nothing before me to show to what they belong.

26342. You were asked, I think whether your College could give the kind of training that would be suitable for teachers in our primary schools?—Yes.

26343. And I understood you to say that the College could?—Yes.

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26344. But at the same time you say you have no experience of the work of any primary school?—No, but I am explaining that it is the science teaching, the special branches of science which are taught in various schools throughout the country that we train teachers for.

26345. Do you think that the teaching of special branches of science is suitable work for a primary school?—In the fifth class yes.

26346. But not until we come to the fifth class?—No.

26347. I think you said that it is exceedingly difficult to train teachers for teaching this branch of school work?—I should imagine so.

26348. You said, I think, that nine out of ten teachers could not be trained for it at all?—Not if they had been themselves teachers for some time.

26349. Then do you consider that the nine who cannot be trained should be allowed to teach this subject?—Well, that is a question I cannot offer an opinion upon; I should think it depended very much upon the natural aptitude of the teacher.

26350. Let me understand you; I thought I understood you to say that nine out of every ten teachers could not be prepared for this work?—Exactly.

26351. Then is it a desirable thing in the interests of science that teachers who cannot be prepared for teaching it, though a course of instruction is provided for them, should be allowed to teach it?—Well, I should say no; but I cannot say that a hard and fast line could be drawn, because they might be able to teach to a certain extent and not be able to teach with

complete advantage to the schools. They might be able to teach a very young class but not an advanced class, say, boys of ten or twelve years of age, though they might be able to teach infants.

26352. You said, I think, that the course of training that the College of Science could give would be a course that would require two years' work?—Yes.

26353. And during those two years special attention should be given to two special branches of science?—Two special branches.

26354. And that is the kind of assistance that the Royal College of Science in Dublin could give us if it was asked to give assistance at all?—Yes.

26355. MESSRS. MOLLAT.—I think you have just mentioned that you were acquainted with the working of the Science and Art system in England?—Yes.

26356. I dare say you have been an examiner under that system?—I have been an examiner for the last six years.

26357. Coming back to the question between us about elementary science, I am not sure whether you consider that there is such a thing as an elementary course in science?—Yes, there are elementary courses in special subjects.

26358. Then, your only difficulty is about the phrase "elementary science"?—Exactly.

26359. But you do admit that there is an elementary course in science?—Yes.

26360. And you think such a course might be advantageously taught in primary schools?—I do.

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Instruction regarding Live Stock—*Monsignor Byrne*, 19291, 19333-6; *Gilligan*, 21432, 21442-5, 21483-4, 21480-6; *Robert Wallace*, 22479-35.

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Present system of, condemned—*Thomas*, 14267-8, *Ludlow Bennett*, 14908-9; *Richard Bennett*, 14929, 14940-1, 14948-9; *James Byrne*, 15009; *Burke*, 15094; *T. J. Alexander*, 15171; *Bateman*, 15057-8; *Joyce*, 16180-2; *Burkitt*, 16332-6; *Bradshaw*, 16431; *Lord Montagu*, 16657-8, 16719; *Lally*, 16920-35; *Lynskey*, 17117-25; *Rev. J. Courtney Clarke*, 17416-21; *Wafly*, 17670-5; *Kelly*, 17747, 17778-80; *Hannon*, 17824-6; *17893-45*; *Cryan*, 17940-2, 18052-6, 18149-62, 18170-80; *Quin*, 19178, 19190-8, 19257-42; *Forbes*, 19463-3; *Burges*, 19744-5; *Dalton*, 20240-1; *Smith*, 20385-9; *Bruce*, 20656-7; *M'Monahan*, 21053-4; *Paterson*, 21216-7; *Robert Wallace*, 22456-64; *FinPatrick*, 24604-61; *Peyton*, 24774, 24893-7.

Present system of, approved—*Stoughton*, 15125, 14492, 14516; *Smith*, 15268-9, 15294, 18333-6; *MacLoughlin*, 18505-7.

Present system of, defects of—*Denachy*, 15429-32, 15503-15.

Present system of, advantages of—*James Byrne*, 15014-7; *Denachy*, 15408-11; *Dogie*, 18427-30; *MacLoughlin*, 18485-94; *Burges*, 19847; *Moore*, 20447-8.

Necessity of practice in—*Smith*, 15370-2; *Denachy*, 15408-10, 15507, 15612-3; *Drisham*, 16809-11, 16863-71; *Lally*, 16926-35; *Ferry*, 17344-5; *Rev. J. Courtney Clarke*,

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17416-21, 17453-4; *Hannon*, 17323-8, 17353-46, 17397-950; *Cryan*, 17351; *Moran*, 18381; *Quin*, 19173; *Monsignor Byrne*, 19383-5; *Burges*, 19744-5; *Deaur*, 19846; *Dalton*, 20042-3, 20240-5; *M'Monahan*, 21034-5; *Paterson*, 21216-7; *Campbell*, 24344; *Peyton*, 24893-4; *Steepe*, 25856.

Necessity of practice in, in Elementary Schools denied—*Robert Wallace*, 22450, 22477.

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Extension of, advocated—*Stagflation*, 14517-21; *Ennis*, 14601, *T. J. Alexander*, 15205; *Smith*, 15260, 15286-7, *Miss Spring Rice*, 15738-9, *Bateman*, 15953-3, 16006; *Bradshaw*, 16436-40, 16480-1; *Most Rev. Dr. O'Dwyer*, 16511-3, 16503-4; *Rev. J. Courtney Clarke*, 17365-6, 17379, *Carpin*, 18120-35, *Morris*, 18653-9, 18800, *Dalton*, 20287-55, *Payton*, 24972; *Spence*, 20431-41, 20478-9, 20483-91; *Brown*, 20654, 20795, *M'Mcnamara*, 21039, *Macrae*, 21814-7; *Miss Paterson*, 23274-6, *Doherty*, 24191, 24321-9, *Rev. J. M. Hamilton*, 24937, 25025-6.

To children of what age?—*Miss Spring Rice*, 15741, 15842-9, 15895-9; *Bateman*, 15993-8, *Sougel*, 22542-3, *Miss Wright*, 22790; *Miss Stevenson*, 22868-9, 22904, 22907; *Miss Paterson*, 23281.

In Scotland—*Aiken*, 21324-9, 21339-49, 21376-8; *Malcolm*, 21616-52, *Macrae*, 21885;

Cookery—continued.

Gray, 21859-63; *Grubham*, 22047-50, *S. M'C Murray*, 22140-1, 22249; *Sougel*, 22542-3; *Miss Wright*, 22780-87, 22802-13; *Miss Stevenson*, 22863-76, 22904-22, *Cuthbertson*, 23037, 23087; *Miss Paterson*, 23224-310, 23226-31, 23336-61, 23365-72, 23380-96, 23404-11; *Law*, 23718-20; *Macdonald*, 23790-1, 23821-2, 23849; *Caldie*, 23909-18.

Effect of, on attendance—*Murray*, 21745-6.

Training of teachers in—*Stagflation*, 14524; *Forced*, 15135, *Smith*, 15282, 15281-3, 15301; *Miss Spring Rice*, 15732-5, 15781-3, 15899-6, 15925-3, *Bateman*, 16041-3; *Lally*, 16236-42, *Morris*, 18667-9, *Doherty*, 24414.

Training of teachers in Scotland—*Aiken*, 21324; *Miss Wright*, 22780, 22810-11; *Miss Paterson*, 23235-8, 23241-73, 23252-4, 23302-3, 23834-61.

(See also TRAINING COLLEGES.)

D

DAIRYING.

Richard Bennett, 14937-8, *Donchy*, 15576-7; teaching of, in primary schools—*Richard Bennett*, 14934, *Donchy*, 15526-30, *Miss Spring Rice*, 15732-5, 15781-3, 15899-6, 15925-3, 15926-7, 15934-8, 15978, 15984-6, 19471; in Ireland and Denmark, compared—*Richard Bennett*, 14973-82; in Ireland and Sweden, compared—*Richard Bennett*, 14985-91, 15008; introduction of Swedish system of, considered—*Richard Bennett*, 14989-93; elementary system of—*Richard Bennett*, 14983-4, in Co. Limerick—*Driscoll*, 16822-7, 16830, 16881; experiment in, in Co. Tyrone—*Bailey*, 19773-83, 19820-5, under Dundesshane Technical Instruction Committee—*Aiken*, 21324-6, 21401-2, 21417.

(See also AGRICULTURE, Agricultural Model Schools—*Monter Dairy School*.)

DOMESTIC SCHOOL, WATERFORD.

See evidence of *George R. Ennis*.

DOMESTIC ECONOMY.

Forced, 15103-5, 15148-50, *T. J. Alexander*, 15205; *Smith*, 15267, 15290-3, 15300-1, 15305-6, 15331-6, *Miss Spring Rice*, 15732-4, 15744-54, 15784-9, 15860, 15827, 15833-5, 15917-21, 15936, *Bateman*, 15948, 15984-7, 16090-1; *Clark*, 17365-6; *Mayall*, 19506; *Dalton*, 20299-40; *Spence*, 20431-40, 20462-3, 20488-90; *Brown*, 20652-4, 20820; *Carpin*, 20988, 21007, *Bateman*, 21123, 21127; *Aiken*, 21324; *Malcolm*, 21639-48; *Miss Wright*, 22793, 22801, 22805-6, 22813-5, *Miss Stevenson*, 22873, 22908, *Miss Paterson*, 23226-9, 23338-38, 23846-79; *Macdonald*, 23790-1; *Doherty*, 24191, 24330-3.

DRESSING.

Archibald Hamilton, 16753, 16775, *Thomas*, 14288-92.

Proportion of schools in which taught—*Bateman*, 13009-10; *Walsby*, 17598-9, *Tristram*, 25044.

Examination in—*Most Rev. Dr. O'Dwyer*, 16820-81; *Carpin*, 19893-95.

Teachers' ability to teach—*Thomas*, 14354-6, *Bailey*, 15036, *T. J. Alexander*, 15159, *Rev. J. Courtney Clarke*, 17452-3; *Dean*, 18939-5; *Doherty*, 24402.

Training teachers in, method of—*Stagflation*, 14534-5, *Forced*, 15133, *T. J. Alexander*, 15166-70, 15223-33; *Goodale*, 15006-10, *Bateman*, 15945, 16022-4; *Lynskey*, 17220-

DRAWING—continued.

8; *Wolpe*, 17533-7, 17400, 17702-3, *Cryan*, 18101-3, *Doyle*, 18257-62, *MacLoughlin*, 18475-8, *Ward*, 18048-101; *Macquar* *Syrac*, 19291-4, 19363, 19356-94; *Burges*, 19741; *Dalton*, 20113, 20208-9; *Brown*, 20723-8, *Truman*, 23066-8; *Doherty*, 24343; *Mahaffy*, 25191-4; *Moore*, 25631-8.

Training teachers in, in Scotland.—*Aitken*, 21324, 21330, 21332-4, 21415-6; *Blair*, 22711-23; *Cuthbertson*, 23501.

(See also TRAINING COLLEGES.)

Teaching of—

Approved at: compulsion considered.—*Thomas*, 14391-3; *Sheffington*, 14436; *Gagarty*, 14737, 14812-3; *Burke*, 15030, 15065-5; *Powell*, 15120, *T. J. Alexander*, 15159, *E. J. Murray*, 15325-6; *Gamble*, 15404, 15607, 15611, *Bateman*, 15940-3, 16113, *Mont Res. Dr. O'Dwyer*, 16547, 16597, 16629-31; *Lally*, 17048-52; *Perry*, 17258; *Rev. J. Courtney Clarke*, 17436, *Wolpe*, 17533-4, 17563-7, *Hannon*, 17850-61, *Cryan*, 17933-4; *MacLoughlin*, 18432; *Swaney*, 18527-31; *Moore*, 18463-4, 18743-7, *Ward*, 19045-9, 19130; *Macquar* *Syrac*, 19322-3, 19361, *Forbes*, 19467; *Burges*, 19740-1, *Deane*, 19833, 19881-4, *Dalton*, 20108-10, 20116-8, 20181-3, *Pedlow*, 20313, *Spence*, 20445, *Barbour*, 20556; *Brown*, 20601-4; *Cargis*, 21004, *Brown*, 21113-8, *Patterson*, 21246-7, *Blair*, 22718-9; *Kerr*, 23617-8, *Doherty*, 24215, 24342-3; *Rev. J. M. Hamilton*, 25011, *Tristram*, 25075, 25081-2, 25157-62, *Mahaffy*, 25199, 25245-7, *Moore*, 25409-10, 25528-30; *Parner*, 25719, *Barrett*, 26148-53, 26143-4.

By old teachers, compulsion opposed.—*Burke*, 15030-3, 15073, 15075, *Powell*, 15130-40, *Bateman*, 15942; *Doyle*, 18260-2, 18292-3, 18314-8, 18350-53; *Deane*, 18922-4.

Present system of, condemned.—*Thomas*, 14335, 14388-92; *T. J. Alexander*, 15166; *Moore*, 18633-45, 18801-5; *Forbes*, 19451; *Dalton*, 20076-82, *Pedlow*, 20264-5; *Pitt-Patrik*, 24717-8.

Programme for, suggested, *Thomas*, 14387-8, 14376; *Sheffington*, 14421-4; *Ludlow* *Bennett*, 14899, *Powell*, 15113; *T. J. Alexander*, 15158, 15170-1; *E. J. Murray*, 15328, *Deane*, 15413, 15437-61, 15478-9, 15516-21, 15635-67, *Gamble*, 15595, 15600, 15612-6, 15648-67, 15688-94; *Bateman*, 15944-7; *Joyce*, 16163-8, 16273-80, 16390-7; *Mont Res. Dr. O'Dwyer*, 16347-3, 16383; *Rev. J. Courtney Clarke*, 17427-32; *Cryan*, 18106-9, *Doyle*, 18212-3, *MacLoughlin*, 18402-4; *Swaney*, 18527-31, 18535-7, 18563-70; *Moore*, 18731, 18806-7; *Brown*, 18895-4, 18917-25, *Ward*, 19046-6, 19101-2; *Forbes*, 19450-1, 19524-6; *Burges*, 19742-3; *Deane*, 19823-60, 19833-50, 19908-20001; *Dalton*, 20076-82, 20175-80, *Pedlow*, 20277-81, 20318-21; *Spence*, 20446-9; *Brown*, 20630-9, 20641-3, 20700-5, *Eardley*, 20827; *Cargis*, 20989; *M. Mooney*, 21037, 21032; *Brown*, 21121-3; *Patterson*, 21248-9, *Jerome* *Wallace*, 21502-4, *Malcolm*, 21568-9, *Ordnance*, 22002-4, *S. M. C. Murray*, 22186-8; *Cuthbertson*, 22398-400; *Pepton*, 22741-3, 24739-94, 24931-3; *Rev. J. M. Hamilton*, 24968-70, *Tristram*, 25061-6, 25161-2.

Advantages of.—*Burke*, 15030, 15069-92, 15068, *E. J. Murray*, 15330-4; *Donnelly*, 15478-81, 15496-7, 15516-21, *Gamble*, 15645-51, 15625-9, *Joyce*, 16273-80; *Bateman*, 16426; *Mont Res. Dr. O'Dwyer*, 16542, 16547, 16580-1, 16632-3; *Lord Montagu*, 16730-7, *Driscoll*, 16851-9; *Lynch*, 17133; *Perry*, 17335-43; *Wolpe*, 17624-5, *Brown*, 18891-4, 18913-25;

DRAWING—continued.

Ward, 19033-5; *Mahaffy*, 19644-52; *Doyle*, 19673, 19708, 19710-8; *Burges*, 19740; *Deane*, 19925-67; *Knolly*, 20354-60; *Cargis*, 20815, 20820-2, 20843-4; *Mahaffy*, 20120, 20222.

In Kindergarten Schools, defects and merits of.—*Bateman*, 15944, 16029-32; *Brown*, 19018-22; *Dalton*, 20076-80, 20183, 20239; *Pedlow*, 20264; *Eardley*, 20892, *M. Mooney*, 21027-8; *Patterson*, 21250, 21307; *Miss* *Brander*, 22383-4.

Insufficient accommodation for.—*Doyle*, 20407-10.

o actors' skill in.—*Thomas*, 14392, 14334-6, *T. J. Alexander*, 15223-30, *Pepton*, 24744-5; 24933-6; *Moore*, 25531-2.

Teachers' skill in, necessity for.—*T. J. Alexander*, 15230; *Gamble*, 16005-6; *Rev. J. Courtney Clarke*, 17454-8; *Cryan*, 18104; *Deane*, 19916-7.

Teachers' omission of, though qualified.—*Thomas*, 14364-6; *Sheffington*, 14335-6; *Lynch*, 17182-4, *Wolpe*, 17850-2; *Blair*, 22714-5.

Certificates for.—*Thomas*, 14398-303, 14335-6, 14374-9, *T. J. Alexander*, 15159-70, *Bateman*, 15944-5, 16114-21, *Doyle*, 18214-7; *Brown*, 20803-7; *Blair*, 22716-86; *Doherty*, 24295-8.

Certificates for, from Science and Art Department.—*Donnelly*, 15419-20; *Brown*, 20736-9; *Blair*, 22765-86.

Certificates for, advantage of not insisting upon.—*Thomas*, 14378-9; *Gamble*, 15603-6, *Wolpe*, 17523-603; *Hannon*, 17860-4; *MacLoughlin*, 18432, 18445-51; *Ward*, 19007-6; *Deane*, 19892-6, 19922-7; *Pedlow*, 20302-4; *Eardley*, 20873; *Brown*, 21118-21, 21144-52; *Blair*, 22711-3, 22737-31, 22773-5; *Geo. W. Alexander*, 23168; *Doherty*, 24344; *Pepton*, 24795-6, 24800-1, *Tristram*, 25082, 25126-6; *Parner*, 25780-2.

In Scotland.—*Aitken*, 21325-6, 21351; *Macrae*, 21877-8; *S. M. C. Murray*, 22176 93, 22252-4; *Blair*, 22711-23, 22724-41, 22748-6, 22754-86; *Cuthbertson*, 22998-3002, 23047; *Kerr*, 23617-8; *Macdonald*, 23821-2; *Culter*, 23691-5.

(See also TECHNICAL EDUCATION in Galway.)

DRESSMAKING:

Sheffington, 14404-6, *Smith*, 15261-2, 15281-3; *Miss* *Spring* *Rice*, 15752-6; *Brown*, 15948, 15950-1, 15984-4; *Rev. J. Courtney Clarke*, 17379; *Wolpe*, 17665-7; *Eardley*, 20036-8; *Culter*, 23403-14; *Rev. J. M. Hamilton*, 24964-7; *Ryan*, 25219.

(See also TECHNICAL EDUCATION in Galway.)

DUBLIN DIocesan BOARD OF EDUCATION:

See evidence of *Rev. J. W. Tristram*.

E

ELEMENTARY AND SECONDARY SCHOOLS IN SCOTLAND:

Scots, 23009-12; *Blair*, 22787-8, leaving certificate in.—*Macrae*, 21358-61, *Scots*, 23264-9, attendance of pupils.—*Gray*, 21967-9; course in, as a preparation for a university.—*Cuthbertson*, 23042, 23088-9.

Income and expenditure of.—*Gray*, 21956-9, 21962-6; *Gibson*, 22342-67; *Blair*, 22742-7; *Miss* *Stevens*, 23675-8, 23856-7, 23889; *Cuthbertson*, 23042, 23088-9; *Geo. W. Alexander*, 23183-217, *Low*, 23658-62, *Macdonald*, 23808-10, 23823, 23881-5 (See also RENTALS SYSTEM in Scotland.)

(See also TECHNICAL EDUCATION in Scotland.)

ELEMENTARY AND SECONDARY SCHOOLS IN SCOTLAND—continued.

- Programme B.—*S. M'C. Murray* (entire evidence), 22128-341; *Scougal*, 22590-4, 22606-12, 22648-85; 22703-4; *Cuthbertson*, 23037, 23066-8; *Geo. W. Alexander*, 23169-82; *Macdonald*, 23796-96, 23807, 23811-5, 23840-8, 23881-91; *Caldar*, 23931-8.
- Programme D., in *Alma Glen's School*, Glasgow—*Kerr* (entire evidence), 23487-636.
- In connection with Science and Art Department—See SCIENCE AND ART DEPARTMENT, Scottish witnesses.
- Classification of Pupils in—See PUPILS, Classification of, in Scotland.

EVENING AND CONTINUATION SCHOOLS.

- Most Rev. Dr. O'Dwyer*, 16608-10; *Rev. J. Courtenay Clarke*, 17440-9, 17463-8; *Cryan*, 18015-20, 18056-60; *Doyle*, 18175-6, 18281-7, 18339-53, 18498-9; *MacLoughlin*, 18467-70; *Brown*, 18956-66, 19012-7; *Ward*, 19056-68; *Messenger Express*, 19292-4, 19356-67; *Magill*, 19607-8, 19619-21, 19635-9; *Bundy*, 19690-1; *Brown*, 19770-1, 19887-9, 19848; *Paterson*, 20334-7; *Bentley*, 20414-28; *Spence*, 20431-40, 20458-60, 20466-79, 20519-28; *E. J. Clarke*, 20631-3, 20542-8; *Brown*, 20663-51, 20738-800; *Kendley*, 20645-67; *M'Ninness*, 21040-5, 21057-62, 21081-5; *Miss Stevenson*, 22890; *Johnson*, 23001-7; *Egan* (entire evidence), 26165-341.
- In Scotland—*Allen*, 21824, 21846-9; *Malcolm*, 21863-41; *Moore*, 21838-42, 21877-89, 21913-8; *Grubbs*, 22009-18; *Robert Wallace*, 22423-7; *Walt*, 22740-7; *Ogilvie*, 22837-68; *Tait* (entire evidence), 22937-90; *Cuthbertson*, 23032-9, 23106-8; *Geo. W. Alexander*, 23201-3; *Miss Paterson*, 23326-9, 23339-53, 23465-72; *Low* (entire evidence), 23627-743; *Elliot*, 23750-66; *Macdonald*, 23767-78; 23784-806, 23826-3; 23857-69, 23877-80, 23891-3; *Caldar*, 23893-920, 23945-6; *Torbet*, 23957-72.

GEOMETRY:

See SCIENCE INSTRUCTION, AND DRAWING, Programmes for.

GRAMMAR:

- Stegington*, 14472; *T. J. Alexander*, 15182; *Denachy*, 15332-8; *Archibald Hamilton*, 16755, *Wolpe*, 17661-2.
- Teaching and programme of, *Stegington*, 14532, 14539; *Landers*, 14668; *Burke*, 15065-8; *Powell*, 15111; *T. J. Alexander*, 15183-8; *Smith*, 15368; *E. J. Murray*, 15360; *Denachy*, 15421, 15445-7, 15463, 15545-50; *Gardie*, 15589, 15598-9, 15624-7, 15687-94; *Miss Spring Rice*, 15751-3, 15887-9; *Watson*, 15934-9, 15970, 16060-2; *Jones*, 16138-41, 16156-7, 16244-23, 16301-7; *Brookman*, 16417, 16441, 16504-10; *Most Rev. Dr. O'Dwyer*, 16616; *Druidan*, 16813-4; *Lynskey*, 17137, 17239; *Rev. J. Courtenay Clarke*, 17360-4, 17380-2; *Wolpe*, 17564-7, 17589-93, 17630-37; *Kelly*, 17742, 17759; *Cryan*, 17948, 18163-5; *Doyle*, 18254-5; *MacLoughlin*, 18512; *Swanney*, 18537-8; *Moore*, 18728-30; *Brown*, 18860-4; *Ward*, 19072, 19250-2; *Quin*, 19174; *Forbes*, 19454, 19521-2; *Magill*, 19548-9; *Bundy*, 19470-1, 19704-9; *Denar*, 19876, 19965-62, 19973-4, 19980-1; *Dalt* v, 20086-7, 20102-4, 20126-8, 20137-47; *Paterson*, 20298, 20344; *Bentley*, 20361, 20389-90, 20400-6; *Brown*, 20757-9; *Kendley*, 20983-5; *Cargill*, 20989; *M'Ninness*, 21089-90, 21094-6; *Brown*, 21120-1, 21206; *Paterson*, 21244, 21320-1; *Macdonald*, 23848-56; *Fraser*, 25068-60; *MacCormac*, 25371.
- Teaching of, with reading and composition—*Smith*, 15399; *Archibald Hamilton*, 16763-4; *Moore*, 18730, 18751-2; *Forbes*, 19476-7; *Dalt* v, 20103, 20145-51, 20191-2; *S. M'C. Murray*, 22823, 22810-21, *Scougal*, 22962-4; *Strong*, 25865.

Text Books in—See NATIONAL SCHOOLS, Text Books in.

H

HAND AND EYE TRAINING:

- Thomson*, 14274-5; *Denachy*, 15466-502; *Brown*, 16108; *Jones*, 16183-6, 16297-303; *Brookman*, 16488-90; *Bundy*, 19700-3; *Dalt* v, 20064-71, 20129-36; *Spence*, 20460-6; *Kendley*, 20859, 20888; *Cargill*, 21004; *Paterson*, 21257-60, 21263-3, 21280-2; *Ogilvie*, 22523-6; *Dakota*, 24176-84, 24316-23, 24344-51, 24398-400, 24411-3; *Peyton*, 24709-71, 24827-31, 24877-80, 24890; *Fraser*, 25063-4, 25079-80, 25178-84; *Moore*, 25419-23; *Parer*, 26484-7.
- In Scotland—*Moore*, 21890-6, 21908-12; *S. M'C. Murray*, 22143-5; *Miss Brander*, 22877-82; *Scougal*, 22823-4, 22849, 22856-60, 22869-84, 22891; *Ogilvie*, 22852-6; *Low*, 23044-8; *Caldar*, 23931-5.
- (See also KINDERGARTEN—Extension of)

HANDICRAFT:

- Stegington*, 14440-51, 14509-6; *Landers*, 14628-34, 14677-8; *Jones*, 16177-8; *Wolpe*, 17548-54, 17619-29; *Kelly*, 17712-68, 17759-8, 17760, 17766-77, 17790-819; *Moore*, 18549-62, 18729-7, 18810-5; *Ward*, 19060-3, 19157-61; *Messenger Express*, 19291-6, 19309-8, 19344-9; *Forbes*, 19493-5; *Magill*, 19551-2, 19566, 19440-4; *Bundy*, 19873-9, 19716-8, 19733; *Dalt* v, 20103-8; *Paterson*, 20271-6; *Kendley*, 20236-41; *Fraser*, 25082-4; *Moore*, 25442-5, 25491-500, 25637-9.

(See also MANUAL INSTRUCTION.)

GEOGRAPHY:

- Stegington*, 14479; *T. J. Alexander*, 15182; *Archibald Hamilton*, 16768-73, 16780.
- Teaching and Programme of—*Stegington*, 14522, 14552; *Landers*, 14668; *Burke*, 15065-8, 15070-2; *Powell*, 15111; *T. J. Alexander*, 15185-81, 15306-15, 15312, 15399, 15308-10; *E. J. Murray*, 15360, 15408; *Denachy*, 15448-56; *Gardie*, 15589, 15598-9, 15624-5; *Watson*, 15934-9, 15970, 16038-9, 16060-2, 16123-4; *Jones*, 16147-50, 16236-9; *Brookman*, 16417-9, 16441-3; *Most Rev. Dr. O'Dwyer*, 16616; *Lynskey*, 17137-8; *Rev. J. Courtenay Clarke*, 17400-2; *Wolpe*, 17564-7, 17596-7; *Cryan*, 17948, 18188-5; *Doyle*, 18254; *MacLoughlin*, 18512; *Swanney*, 18539; *Brown*, 18860-4; *Ward*, 19072; *Quin*, 19174; *Forbes*, 19453; *Magill*, 19548; *Bundy*, 19670-1, 19718-32; *Denar*, 19876; *Dalt* v, 20086-7, 20103; *Paterson*, 20298, 20344; *Bentley*, 20427-51; *Brown*, 20738-7, 20786-8; *Kendley*, 20884-4; *Cargill*, 20989; *Brown*, 21132; *Paterson*, 21244, 21320-1; *Malcolm*, 21671-3; *S. M'C. Murray*, 22250, 22314-4; *Scougal*, 22630-5; *Ogilvie*, 22817-9; *Fraser*, 25058-60; *Moore*, 25463-70, 25477-8; *Strong*, 25866-70.

Text Books in—See NATIONAL SCHOOLS, Text Books in.

HOME LESSONS:

Barbour, 20609, 20616-8; *Cargis*, 20989;
S. M'C. Murray, 22151.

HORTICULTURE:

See AGRICULTURE—School Gardens.

HOUSEWORK, HOUSES:

See DOMESTIC ECONOMY.

I

INDUSTRIAL MUSEUMS:

See SCHOOLS, MUSEUMS AND COLLECTIONS.

INDUSTRIAL PROGRAMS FOR GIRLS:

(*Alternative (Cookbook, Literary and Industrial) Schemes for Class IV*)

Sheffington, 14467-70, 14483-7, *T. J. Alexander*, 15174-82, in Waterford district—*Sheffington*, 14491-6; 14455-6; in Belfast district—*Sheffington*, 14458, 14483; *Moran*, 18971-9; *Dalton*, 20101-9; in Cork district—*T. J. Alexander*, 15193-6, 15204.

Objections to—*Thomas*, 14324, *Sheffington*, 14403, 14406, 14455-8, 14471-7, 14484, *T. J. Alexander*, 15186, 15196, *Smith*, 15267, 15305-6; *Bateman*, 16050-52; *Miss Spring Rice*, 15802-3, *Bradshaw*, 14447-8; *Brown*, 17554-6, *Cryan*, 17960-2, *Dwyer*, 18376-9, *Moran*, 18672-9, 18703-7, *Quin*, 19174, 19274, 19490; *Mayall*, 19556-63; *Pedlow*, 20282-6; *Spence*, 20482-4, *Brown*, 20510-2; *M'Macneil*, 21037, *Paterson*, 21263, *Fraser*, 21694, 21714-7, *Mahaffy*, 25249-50, 25285-6, *Moran*, 25457-8.

Failure of, generally—*Thomas*, 14324, *Sheffington*, 14401, 14403, 14455-8, 14475-7, 14483-5, 14487, *T. J. Alexander*, 15173, 15186, 15193-6, *Miss Spring Rice*, 15761-3, *Wolfe*, 15772-6; *Dwyer*, 18276-9; *Moran*, 18671.

Success of, in Convent and other schools—*Thomas*, 14325, *Sheffington*, 14489; *Miss Spring Rice*, 15761-3, 15906-7.

Time for needlework in—*Sheffington*, 14403, 14455-8, 14471-7, 14484, 14514-5; *Miss Spring Rice*, 15760-1, 15813-3; *Bateman*, 15948-9, 15970, 16059; *Moran*, 18972-3, *Mahaffy*, 25249-50, 25305-6.

And literary subject—*Sheffington*, 14470-1, 14478-9, 14482-7, *T. J. Alexander*, 15180, 15182, *Miss Spring Rice*, 15802-3, *Mayall*, 19561-3.

INSTRUCTORS:

Expert, for particular subjects, considered—*Most Rev. Dr. O'Dwyer*, 16591-4, 16679-84, *Wolfe*, 17706-11; *MacLaghlin*, 18440-1; *Monaghan Byrne*, 19291-6; *Burges*, 19773-4, 19843; *Dalton*, 20186, *Ogden*, 22827-30, *Mahaffy*, 25231-3, 25257-8, 25297-304; *Stronach*, 25809-10, 25833-9, 25893-84.

(See also NURTURING.)

Female, to Girls' schools, suggested—*Most Rev. Dr. O'Dwyer*, 16593-5, 16672-4, 16684; *Monaghan Byrne*, 19291-6.

Procedure by, considered—Effect of defects of school programme and text books on—*T. J. Alexander*, 15103-3, 15201-3, 15206-15; *Dewdney*, 15449-51, 15474-7; *Most Rev. Dr. O'Dwyer*, 16533-4, 16635-4, *Lynskey*, 17216-7, *Rev. J. Courtney Clarke*, 17474-5, *Wolfe*, 17676-9; *Kelly*, 17747; *Cryan*, 18034-5, 18046; *MacLaghlin*, 18458-6; *Moran*, 18623, 18630-3, 18698-9; *Quin*, 19194-5; *Forbes*, 19481-6, 19501, *Burke*, 19719-32; *Burges*, 19773; *Dalton*, 20152-96; *Pedlow*, 20306-7.

INSTRUCTORS—continued.

20320-41, *Brown*, 20679-86, 20740-8, 20765-88; *Barclay*, 20971-82; *Cargis*, 20989; *Brown*, 21136-43, 21192-201; *Graham*, 22088-94; *S. M'C. Murray*, 22182-90, 22336-41; *Scougal*, 22595-604, 22619-26, 22988-99; *Maier*, 23718; *Miss Stennison*, 23894-7; *Miss Paterson*, 23890-96, 23404-5, *Doherty*, 24185, 24192, 24193-202, 24267-70, *Peyton*, 24743; *Mahaffy*, 25298-5, *Mac-Crossan*, 25334-6, 25344, 25357-9, 25393-996; *Moran*, 25418, 25479-85; *Parer*, 25765-71.

(See also RESULTS FESS SYSTEM, Modification of.)

Individual as compared with class examination by—*T. J. Alexander*, 15251-5, *Dewdney*, 15452; *Lynskey*, 17127, 17170-3, 17234-5; *Rev. J. Courtney Clarke*, 17482-9, *Cryan*, 17950, 17986-93; *Moran*, 18986-7, *Brown*, 18998-9011; *Ward*, 19047-8, 19072, *Mayall*, 19579-81, *Dewdney*, 19683-7, *Dalton*, 20216-35, *Pedlow*, 20365-34; *Bosley*, 20697, 20698-3; *Brown*, 20655-63, 20737-8; *Moran*, 21887-900; *Graham*, 22014-23, 22041-5; *S. M'C. Murray*, 22290; *Scougal*, 22667-72; *Culder*, 23048-58; *Fraser*, 25167-9, *Mac-Crossan*, 25378-80.

(See also RESULTS FESS SYSTEM, Modification of.)

Training of—*Lynskey*, 17128-32, 17176-8.

Examination by, of Scotch Evening schools—*Butt*, 22968-81.

INTERMEDIATE EDUCATION:

Most Rev. Dr. O'Dwyer, 16670-1.

Science instruction under Board of—*Burke*, 15051-3, *Most Rev. Dr. O'Dwyer*, 16598, 16662-4, *Johnson*, 26051.

Effect of, on Christian Brothers' Schools and primary education—*Most Rev. Dr. O'Dwyer*, 16558-61.

IRISH INDUSTRIES ASSOCIATION:

See evidence of *Miss Spring Rice*, 15732-326.

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KINDERGARTEN:

Bateman, 16097-101, Teachers' skill in and sympathy with—*Sheffington*, 14407, 14531-3; *Dalton*, 20062-3; advantage of not insisting on teaching certificate in, *M'Macneil*, 21071-3; *Miss Thomas*, 23434-5, 23431-4, aims and nature of discussed—*Peyton*, 24916-30.

Teachers' attitude towards—*Sheffington*, 14412-8, *Bradshaw*, 14453; *Quin*, 19275-80; *M'Macneil*, 21030-1; *Miss Thomas*, 23428-30.

Training of teachers in—*Sheffington*, 14533; *M'Macneil*, 21032, 21049-51, 21071-6; *Miss Bradshaw*, 23394-6; *Miss Thomas*, 25416, *Mahaffy*, 25191-4.

(See also TRAINING COLLECTIONS.)

Extension of, recommended—*Thomas*, 14275; *Sheffington*, 14407, 14414-24, 14491; *Pedlow*, 15132, 15143; *T. J. Alexander*, 15247, *Smith*, 15278-80, *E. J. Murray*, 15388-9, *Dewdney*, 15479-83, 15570, *Graham*, 15615-24, 15649-52, *Bateman*, 16033-9, 16108; *Joyce*, 16173-4, 16213-4, *Driskane*, 16807-8; *Sweeney*, 18535-6, 18588-90; *Moran*, 18830-8, 18734-43, *Ward*, 19063, 19103-28, 19130; *Monaghan Byrne*, 19384-6, *Bosley*, 19700-3, *Dalton*, 20012-69, 20082-4, 20129-36, 20193, 20234-9; *Pedlow*, 20266-3, 20315-7, *Brown*, 20623-5; *Barclay*, 20827-30, 20889-97, 20960-3, *M'Macneil*, 21027-32, 21070; *Paterson*, 21250, 21286-7, 21307; *Mahaffy*, 21394, *Moran*, 21881, *Grey*, 21948; *Graham*, 22106; *Miss Thomas*

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23419-22, *Doherty*, 24411-2, *Peyton*, 24739-40, 24808, 24816-7, 24824-7, *Tristram*, 26662-3, 26078-2, *Mahaffy*, 25200-3, 26240-1, 26224, *Parson*, 26684-7.

Extension of, opposed—*Macdonald*, 25813-20, 25840-4.

Extension of, obstacles to, and means of overcoming—*Sheffington*, 7, 14407-13, 14482-91, 14528-30; *Powell*, 15113-20; *T. J. Alexander*, 15247; *Smith*, 15280; *Gusbie*, 15622-4, *Bateman*, 15965; *Joyce*, 16215-20; *Dalton*, 20056-61, 20356-9; *Hardley*, 20896-7, 20940-3; *M'Kenzie*, 21031-3, *Moloch*, 21642-71, *Mrs Thomas*, 23423-3, *Peyton*, 24770-1; *Mahaffy*, 25245-3.

Advantages of—*Thomas*, 14274; *Powell*, 15113; *Demachy*, 15450-3; *Gusbie*, 15649-52, 15730-1, *Bateman*, 16104-6, *Sinclair*, 18530; *Moran*, 18638, 18739-42, *Ward*, 19118-4, *Quin*, 19275-80, *Deane*, 19967-71, *Dalton*, 20129-36, 20173-4; *Barbour*, 20354; *Hardley*, 20890-5; *M'Kenzie*, 21027-31; *Macrae*, 21802-6, 21901-7; *S. M'C. Murray*, 22275-9; *Mrs Brander*, 23376-82, 23387-93; *Sinclair*, 23437-33, *Mrs Stevenson*, 23892-901, 23932-6; *Cuthbertson*, 23126-7; *Mrs Thomas*, 23419-20; *Caldie*, 23922; *Mahaffy*, 25200-3, 25227-8, 25293-6.

Defects of—*Brander*, 20699-700; *Parson*, 21286-7.

(See also DRAWING in Kindergarten Schools.)

Effect of, on attendance—*Myer*, 19449-71, *Dalton*, 20058; *Mahaffy*, 25200; *Ryan*, 26217.

In Scotland—*Moloch*, 21585-4, 21663-71; *Macrae*, 21800-6, 21848-51, 21901-7; *Gray*, 21948; *Grubbs*, 22104, *S. M'C. Murray*, 22275-9; *Mrs Brander*, 23368-412; *Sinclair*, 23622-4, 23655-8, 23678-84, 23687-8, *Mrs Stevenson*, 23698-901, 23932-6, *Mrs Thomas*, 23412-34 (entire evidence), *Macdonald*, 25813-20, *Caldie*, 23921-3.

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LACEMAKING.

Ennis, 14580, 14597-602, *Smith*, 15342-8.

LAUNDRY WORK.

Demachy, 15522-3; *Bateman*, 15954-7, *Miss Rev. Dr. O'Dwyer*, 16511-2, 16515, *Cryan*, 18241-2, *Batty*, 20374-6, *Macrae*, 21745-6; *Tristram*, 25047, 25095, *Ryan*, 26219-20, in *Manual Dairy School—Barton*, 14881-3, 14900-1, by itinerant teachers—*Powell*, 15133-5; *Mrs Spring Rice*, 15732-3.

Necessity of, and educational value of—*Sheffington*, 14519-21, *Smith*, 15280, 15347-8; *Miss Rev. Dr. O'Dwyer*, 16511-2, 16540-50, *Lally*, 17063-8; *Rev. J. Courtney Clarke*, 17365-6; *Spence*, 20480-1, 20483-31, *Rev. J. M. Hamilton*, 25014-26.

(See also TECHNICAL EDUCATION in Galway.)

Training of teachers in—*Powell*, 15133-5; *Smith*, 15280, 15282, 15281-2, 15282; *Mrs Spring Rice*, 14732-5; *Mrs Paterson*, 23854-61; *Doherty*, 24414.

Progressive in—*Mrs Spring Rice*, 15737-43, 15806, 15896-76; *Mrs Stevenson*, 23888-90; *Mrs Paterson*, 23313-7, 23373-9, 23407-11, *Rev. J. M. Hamilton*, 24971-3, 24977-9.

Materials and funds for, provision of—*Smith*, 15280, 15303-4, *Mrs Spring Rice*, 14735-7, 15840-1, 15899-901, *Lally*, 16206-8, *Mrs Paterson*, 23311, 23318-9, 23362-5, 23380-96, 24404-6.

In Scotland—*Lilke*, 21524-5; *Macrae*, 21745-6, *Sinclair*, 23442-3, *Mrs Wright*, 22793, 25798-900, 25806-8, *Mrs Stevenson*, 23889-

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94; *Cuthbertson*, 23037, *Mrs Paterson*, 23309-20, 23326-32, 23358-96, 23404-11, *Loe*, 23718-20, *Macdonald*, 23790-1, 23862; *Caldie*, 23909-18.

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Thomas, 14263, 14264, 14356; *Sheffington*, 14429, 14472, 14537-9; *Burke*, 15082-3; *T. J. Alexander*, 15186; *Bradshaw*, 16444, 16482-3; *Miss Rev. Dr. O'Dwyer*, 16582; *Lally*, 17063-5; *Rev. J. Courtney Clarke*, 17402-3; *Sinclair*, 18582-3; *Batty*, 19693-9; *Brander*, 20801-4; *Hardley*, 20861-2.

Association of, suggested—*Miss Rev. Dr. O'Dwyer*, 14582-92, 16665-72, 16677-8; *Lally*, 17066-7; *Perry*, 17360-3; *Quin*, 19184-8; *Manager Byrne*, 19818-24; *Myer*, 19561; *Batty*, 19693-5, *Caryon*, 20096-1001; *M'Kenzie*, 21056-8, *Tristram*, 25097-101.

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Attitude towards, of inspectors—*Deane*, 19925-53; *Sinclair*, 23701-2.

Attitude towards, of teachers—*Thomas*, 14361-2; *Sheffington*, 14466; *Landers*, 14634-5, 14639-40, 14654, *Gogarty*, 14728-9, *Burke*, 15083-4, 15064-5, *Demachy*, 15415, 15464-5, 15567-73; *Gusbie*, 15565-603, 15648; *Bateman*, 15978-80; *Joyce*, 16281-2, 16288-303; *Lally*, 16977-9; *Clarke*, 17404; *Wolpely*, 17416; *Kelly*, 17740-1, 17781, *Cryan*, 17922-49, 17962, 17994-18007, 18118-20, *Dupe*, 18241, 18294-7; *Macdonald*, 18497-501, *Moran*, 18815, *Brander*, 18845-53, 18858-9, 18887-94, 18926-32, 18967-76; *Wood*, 19035-44, 19078-90, 19103-51, 19138-43; *Parson*, 19416-22; *Pedlar*, 20322-7, *Hardley*, 20863-5, *Parson*, 21213-5, 21274-9, 21296; *Mahaffy*, 25190, 25287-91.

Attitude towards, of teachers in Scotland—*S. M'C. Murray*, 22205-7, 22264-6; *Sinclair*, 22624, 22650-2, 22677-83, 22692-6; *Cuthbertson*, 22994, 23090-5.

Attitude towards, of parents—*Gogarty*, 14732; *T. J. Alexander*, 15188-91, 15267, *Bradshaw*, 16445-50, 16487-95; *Miss Rev. Dr. O'Dwyer*, 16542, 16573-6, 16636-8, 16645-50, 16661; *Lally*, 16982-4, 17058-67; *Lansley*, 17163; *Rev. J. Courtney Clarke*, 17409-71, *Wolpely*, 17616-8, 17684-6, *Kelly*, 17740-1; *Moran*, 18708-9; *Dalton*, 20070; *Moloch*, 21604; *Macrae*, 21784-5, 21830-5; *S. M'C. Murray*, 22145; *Sinclair*, 22281-3, 22643-7; *Cuthbertson*, 23014-5, 23090; *Loe*, 23744-7; *Peyton*, 24274-8.

Attitude towards, of children—*Thomas*, 14361-2, *Landers*, 14659, 14690, *Sheffington*, 14440-1, 14506; *Gogarty*, 14769-10, 14811, *Bateman*, 15978; *Deane*, 19921-4; *Hardley*, 20848-50, 20863-5, 20868; *Moloch*, 21567, 21582-6; *Macrae*, 21707, 21721-4, 21738-60, 21763-5, 21784-5, 21830, 21857; *Gray*, 21976; *Grubbs*, 21996-7, 22036, *S. M'C. Murray*, 22144, 22205-8; *Sinclair*, 22680-3, *Cuthbertson*, 23110; *Macdonald*, 23773, 23777-8, 23844-5, *Caldie*, 23925; *Yarsh*, 23935-60.

Attitude towards, of Trades Unions—*Grubbs*, 22073-4, *Cuthbertson*, 23096-100; *Kerr*, 23696-7, *Loe*, 23634-6, 23706-9.

Effect of, on literary progress, &c.—*Thomas*, 14361-2; *Sheffington*, 14464, 14503; *Gogarty*, 14693, 14718-21, 14735, 14742, 14771, 14815, *Burke*, 15030-1, 15054, 15059-63, 15074-7; *T. J. Alexander*, 15192; *Demachy*, 15484-90;

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Archibaldson Hamilton, 16784-5; *Lynskey*, 17157-61; *Perry*, 17440-3; *Wafly*, 17561-3, 17555, 17684-5; *Cryan*, 18093-9; *Moore*, 18740-2, 18746; *Brooks*, 18867-9, 18876-8; *Ward*, 19066-3; 19113-5; *McIntosh Byrne*, 19294; *Burke*, 19440-5, 19509; *Denar*, 19907-8, 19921-4, 19935-45; *Dallas*, 20158-43; *Beatty*, 20376-7; *Carpis*, 20594-5; *Patterson*, 21110-1; *Jerome Wallace*, 21532-8; *Malcolm*, 21603; 21615; *Macrae*, 21738-41, 21825-9, 21885; 21901-9, 21919-23; *Gray*, 21948-54; *Grakham*, 22002-8; *S. M'C Murray*, 22146-52, 22255-8; *Scougal*, 22553-4, 22669-86; *Cuthbertson*, 22994, 22996-7, 23109-11; *Geo. W. Alexander*, 23232; *Duncan*, 23463, 23465; *Kerr*, 23517-23, 23533; *Tristram*, 25154-5; *Barrett*, 25145-6.

Effects of an attendance—*Moore*, 21748-9, 21761-2, 21766-71, 21874-6, 21934-5; *Grakham*, 21996-7; *S. M'C Murray*, 22155, 22205-11; *Loe*, 22665-9, 25701; *Macdonald*, 22827-39, 23576; *Caldor*, 23229-30; *Farbat*, 23565-60.

Cost of, and provision of, funds for—*Gogarty*, 14781-4, 14768-70, 14781-4; *Burke*, 15007-8, 15082-3; *T. J. Alexander*, 15183-6, 15217-8; *Smith*, 15274; *Denachy*, 15493-5; *Lally*, 16899, 16907-8; *Lynskey*, 17115-6; *Rev. J. Courtney Clarke*, 17485-90, 17459-65; *Kelly*, 17716-35; *McIntosh Byrne*, 17997-105; *Patterson*, 21609-71; *Atkins*, 21325-6, 21355-72, 21381-4, 21389-7, 21403-5, 21565; *Jerome Wallace*, 21518-21, 21532; *Malcolm*, 21577-9, 21548-51; *Macrae*, 21690-2, 21697-701, 21731, 21751-3, 21779-80, 21818-24, 21836, 21860-3, 21868-70; *Gray*, 21843-8, 21953-9; *Grakham*, 21999-2001, 22044; *Scougal*, 22538, 22616; *Cuthbertson*, 22996-7; *Geo. W. Alexander*, 23126-34; *Duncan*, 23457-60; *Loe*, 23629-30, 23637-9; *Macdonald*, 23781, 23891-2; *Dakerty*, 24343; *Peyton*, 24510-6; *Tristram*, 25053-4, 25082-73; *Moore*, 25556-7; *Pinto*, 25762.

(See also TECHNICAL EDUCATION—Grant available for, in Scotland.)

Remuneration for Teachers in—*Smith*, 15274; *Denachy*, 15571-2; *Archibaldson*, 16443-4; *Peddie*, 20323-7; *Brooks*, 20643-51; *McKaffy*, 25188.

Centres for—*Forbes*, 15194-8; *Lally*, 16909-5; *Perry*, 17310-4; *Rev. J. Courtney Clarke*, 17368; *Denar*, 19876; *Spence*, 20510, 20629; *Brooks*, 20649; *M. McIntosh*, 21043-8; *Macrae*, 21715-20, 21927, 21956-7; *Cuthbertson*, 22993, 22997-7; *Geo. W. Alexander*, 23128-54, 23139; *Macdonald*, 23781, 23870-6; *Mac Creanor*, 25377; *Moore*, 25554-7.

Literary training a necessary preliminary to—*T. J. Alexander*, 15122; *Patterson*, 21261.

Drawing in connection with—*Gogarty*, 14700, 14715-7, 14745-6, 14804-7; *Burke*, 15059-2, 15058-63, 15075-7; *T. J. Alexander*, 15222; *E. J. Murray*, 15588; *Denachy*, 15418, 15480-5, 15486-7; *Gamble*, 15594-5, 15668-72; *Most Rev. Dr. O'Dwyer*, 16347, 16370, 16634-6; *Lord Montagu*, 16786-7; *Perry*, 17258-9, 17299-300; *Rev. J. Courtney Clarke*, 17432; *Kelly*, 17816-7; *Cryan*, 17943-8; *Spence*, 18532, 18563-7; *Brooks*, 18921-5; *Ward*, 19125-2; *Burke*, 19675; *Denar*, 19870-3, 19925-53; *Dallas*, 20075-5, 20107, 20132-40; *Peddie*, 20273-5; *Spence*, 20456; *Brooks*, 20640-2; *Carpis*, 20994; *M. McIntosh*, 21043-8; *Atkins*, 21335-4; *Jerome Wallace*, 21560-4; *Malcolm*, 21568-9, 21611; *Macrae*, 21733-6, 21924-6; *Grakham*, 22002-4, 22045-6; *Scougal*, 22519; *Novell*, 22439-41; *Kerr*, 23538-3, 23612-8; *Loe*, 23679-84; *Caldor*, 23823; *Dakerty*, 24119, 24238-43; *Peyton*,

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24739-60, 24880; *Tristram*, 25153-4; *Moore*, 25409, 25444-6; *Barrett*, 25447.

Educational nature of—*Gogarty*, 14489; *Burke*, 15054; *Denachy*, 15484-90; *Perry*, 17392-90; *Rev. J. Courtney Clarke*, 17423-5; *Cryan*, 17957-8; *Doyle*, 18367-72; *Brooks*, 18910-66; *Ward*, 19113-3; *Burke*, 19667-8, 19679; 19683-92, 19733; *Spence*, 20453-6; *Barclay*, 20898-9; *Carpis*, 20991-5; *Patterson*, 21263-8; 21285; *Atkins*, 21339; *Macrae*, 21734-5, 21786; 21798-9; *Gray*, 21848-54; *Grakham*, 22002-4; *Ogden*, 22850-1; *Cuthbertson*, 22999-108; *Novell*, 23442-3; *Duncan*, 23455; *Kerr*, 23517-23, 23533-8, 23666-7; *Loe*, 23656-61, 23685-7, 23705, 23743; *Macdonald*, 23651-6; *Caldor*, 23900-4, 23929-8; *Farbat*, 23946-72; *Peyton*, 24899-909; *Rev. J. M. Hamilton*, 25019-24; *Tristram*, 25063, 25163-7, 25178-8; *Barrett*, 25157-8.

As a basis for technical education—*Ward*, 19084-7, 19141-3; *Macrae*, 21749-50, 21843-4; *Ogden*, 22845-9; *Loe*, 22669-71, 23711-4.

By ordinary or special teacher—*Gogarty*, 14755-7; *Burke*, 15084-6; *T. J. Alexander*, 15189; *Denachy*, 15416; *Brooks*, 15981; *Most Rev. Dr. O'Dwyer*, 16551-2; *Perry*, 17294, 17303-14; *Rev. J. Courtney Clarke*, 17367-73, 17367; *Kelly*, 17748-9; *Cryan*, 17959; *Moore*, 18618; *Brooks*, 19013-5; *McIntosh Byrne*, 19291-6, 19302-8, 19387-84; *Denar*, 19726-7; *Denar*, 19874-6; *Patterson*, 21278-85; *Macrae*, 21681, 21713-4, 21787-91, 21871-3, 21928-35; *Grakham*, 22001-7, 22010-2, 22091-115; *S. M'C Murray*, 22134-6; *Scougal*, 22538-41; *Cuthbertson*, 22995, 23025-7; *Geo. W. Alexander*, 23132-8; *Novell*, 23435-49; *Duncan*, 23476-80; *Kerr*, 23612; *Loe*, 23672-3; *Elliot*, 23736-8, 23762-4; *Caldor*, 23925.

Necessity of teachers' training in—*Gogarty*, 14757-8; *Burke*, 15084; *Most Rev. Dr. O'Dwyer*, 16544-5.

Pupils of, subsequent career of—See PUPILS.

Age of pupils in—*Denar*, 14571-4; *Gogarty*, 14703-4, 14765-6; *Gamble*, 15589-94; *Kelly*, 17776-7; 17788-806; *Spence*, 18547-9; *Burke*, 19683-8, 19710-5; *Denar*, 19877-9; *Jerome Wallace*, 21497-9, 21510-1; *Malcolm*, 21605-10; *Macrae*, 21706, 21771; *Grakham*, 21986, 21983-5, 22094-52; *S. M'C Murray*, 22157-8; *Ogden*, 22820-1; *Cuthbertson*, 22995-4; *Kerr*, 23512-6, 23608-11.

Preferred to science—*Kerr*, 23540-2. (See also SCIENCE INSTRUCTION, preferred to Manual Instruction.)

Course in—*Gogarty*, 14696-8, 14713-7, 14740, 14745-55, 14788-88, 14809-7; *Denachy*, 15529-41; *Macrae*, 21729-32, 21854-7; *Grakham*, 22069-72; *S. M'C Murray*, 22139-40, 22154-5; *Scougal*, 22524, 22555-60; *Ogden*, 22852; *Novell*, 23438-41; *Duncan*, 23459-6, 23472-5; *Kerr*, 23518-20, 23619-8; *Loe*, 23679-84; *Moore*, 25426, 25446.

Tools for—*Gogarty*, 14705, 14736-9, 14747-9, 14751, 14753, 14766-7, 14794-8; *Jerome Wallace*, 21499-500; *Macrae*, 21742-4, 21795-7; *Gray*, 21974-6; *Scougal*, 22559-60; *Geo. W. Alexander*, 23133-4; *Kerr*, 23613-8, 23609-11.

By Swedish Sloyd—*Denachy*, 15499-501; *Gamble*, 15728-9; *Macrae*, 21758-32, 21792-7.

In Rural Schools—*Shigwanza*, 14440-51, 14503-6; *Landers*, 14628-36; 14641-4, 14677-9; 14688-93; *Gogarty*, 14723-6, 14743, 14756-7; *Denachy*, 15567-75; *Archibaldson*, 16430-5, 16442-4, 16451-2, 16467-9; *Most Rev. Dr. O'Dwyer*, 16510-3, 16519-50; *Lord Montagu*, 16690, 16724-3; *Duncan*, 16812,

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Lynskey, 17195; *Perry*, 17394, 17808, 17325-6; *Rev. J. Courtney Clarke*, 17565-6; *MacLaghlin*, 18909-1; *Brown*, 20649-51; *Jerome Wallace*, 21505-9; *Payton*, 24884-9; in *Central National School, County Galway—Kelly* (entire evidence), 17712-815. (See also Introduction of, approved, and Teachers' attitude towards).

In *Newtown School, Waterford—Russell*, 14481-5, 14585-9, 14606-14.

In *Christian Brothers' School, Lismore—Gogarty* (entire evidence), 14694-315.

In *Swiss Schools—Egan*, 14379, 14603-7, 14615-20; *Morgan*, 19738-9.

In *Evening and Continuation Schools—Archdeacon Hamilton*, 16754-62; *Devlin*, 16812, 16817, 16845-51; *Lally*, 16893-8, 16950-4; *Lynskey*, 17193-8; *Rev. J. Courtney Clarke*, 17413-5; *Kelly*, 17738-9, 17768-71, 17790-1, 17810-3; *Cryan*, 17925-61; *Dwyer*, 18575-6, 18541-4; *Brown*, 18965-6, 19012-7; *Ward*, 19038-68; *Macnaghten Byrne*, 19092-4, 19298, 19246-9, 19354-47; *Magill*, 19439; *Patterson*, 20336-7; *Brown*, 20443-51; *Egan*, 26235-6.

In *Evening and Continuation Schools in Scotland—Grakins*, 22009-13; *Cuthbertson*, 22106-8; *Lee* (entire evidence), 23627-749; *Elliot*, 23750-66; *Macdonald*, 23767-79, 23781-4, 23836-9, 23891-3; *Caldor*, 23893-994; *Tarbat*, 23957-72.

In *Scotland—Atkin*, 21321-6, 21330-4; *Jerome Wallace*, 21497-363; *Makela*, 21566-615; *Macrae*, 21675-759; *Stewart*, 21808-13, 21818-36, 21843-4, 21852-76, 21883-5, 21897-909, 21919-37; *Gray*, 21942-53, 21974-6, 21981-3; *Grakins*, 21984-2197; *S. M'C. Murray*, 22134-55, 22199-911, 22240-1, 22256-8, 22264-74; *Scougall*, 22519-34, 22549-60, 22677-83, 22618-22, 22643-8, 22616-7, 22669-86, 22691-702; *Wair*, 22705-10, 22730-3; *Cuthbertson*, 22993-7, 23014-8, 23035-7, 23037, 23061-8, 23090-116; *Rev. W. Alexander*, 23128-39, 23145-6, 23219-22; *Norwood*, 23435-49; *Donnan*, 23460-86; *Kerr*, 23612-23, 23633-43, 23652-6, 23663-10; *Lee* (entire evidence), 23627-749; *Elliot*, 23750-66; *Macdonald*, 23767-84, 23826-39, 23851-6, 23870-6, 23891-3; *Caldor*, 23893-994, 23924-30; *Tarbat*, 23957-72.

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Text Books used in, National Education Board's Regulations as to—*F. J. Alexander*, 15205-11, 15248-51; *Archdeacon Hamilton*, 16800-2; *Dwyer*, 18412-4; *Brown*, 19028-31; *Quin*, 19231; *Brown*, 20697-8.

Programme in, choice of—*Shelington*, 14537-9; *Powell*, 15121-30, 15149; *Smith*, 15314-20; *Magill*, 19563; *McKaffy*, 20271-2.

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Pupils in, cost of, and in Model Schools, compared—*Rev. J. Courtney Clarke*, 17503-30.

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Books for, should include lessons on different subjects—*Shaghton*, 14582, 15573; *Powell*, 16111; *E. J. Murray*, 15399-403; *Denashy*, 15454; *Gosbell*, 15634; *Bateman*, 19951-8, 19970, 19990-2, 19990-1; *Joyce*, 16308-13; *Bradenham*, 18463; *MacLachlan*, 18808-9; *Sweeney*, 18878; *Moran*, 18714-20; *Dalton*, 20103; *Brown*, 20636-8, 20666-7, 20687-97, 20730-7; *Patterson*, 21243; *S. M'C. Murray*, 22238-9; *Seagol*, 22440-45; *Miss Wright*, 22812-3; *Kerr*, 23502-6.

Improved regulations as to, *Smith*, 15299; *Bateman*, 19998; *Archibald Hamilton*, 16793-9; *Walsby*, 17583, 17683-9; *Cryan*, 17935-9, 18046-8, 18085-100; *Sweeney*, 18851, 18858-61; *Moran*, 18719-20; *Quinn*, 19174, 19283-4; *Forbes*, 19430-3, 19468-77, 19505-51; *Dalton*, 20145-31, 20191-2; *Pedlow*, 20292-301; *Brown*, 20682; *S. M'C. Murray*, 22310-17.

Teaching of—*Burke*, 15680; *Powell*, 16111, 15148; *Gosbell*, 15676-81, 15680-9; *Joyce*, 16240-1; *Archibald Hamilton*, 16760-1, 16795-9; *Rev. J. Courtney Clarke*, 17360; *Walsby*, 17633-9, 17661-7; *Cryan*, 17832-9; *Doyle*, 18288-83, 18327-32, 18575-6; *Sweeney*, 18542; *Moran*, 18714-20, 18751-3, 18835-6; *Brown*, 18807-8, 18838-46; *Ward*, 19144-7, 19150-2; *Quinn*, 19232-6; *Macquar Byrne*, 19380; *Forbes*, 19631, 19916; *Beatty*, 20411-3; *Burke*, 20609-4; *Brown*, 20748-52; *M. McQuinn*, 21029; *S. M'C. Murray*, 22330-3; *Seagol*, 22838-40; *Moore*, 23539-44.

Quality of—*Shaghton*, 14480-2; *Dalton*, 20167-8; *Beatty*, 20364-7, 20391-2, 20411-13; *R. J. Clarke*, 20540; *Seagol*, 22637-40, 22667-8.

RESULTS FREE SYSTEM—continued.

18281-2; *Doyle*, 18417-26; *Drawing—Burke*, 15053; *T. J. Alexander*, 15333; *Walsby*, 17588-9; *Sweeney*, 18537, 18543-70; *Cryan*, 20090; *Kindergarten—Shaghton*, 14508-13, 14538-9; *Powell*, 15113-20; *T. J. Alexander*, 15247; *Joyce*, 16170-4; *Cryan*, 20290; *Needlework—Smith*, 15259; *Cryan*, 20290; *Sewing Machine and Dressmaking—Smith*, 15363; *Arithmetic—Denashy*, 15434-3; *Gosbell*, 15634-5; *Joyce*, 16144-6; *Moran*, 18321-3; 18763-73; *Forbes*, 19617; *Dalton*, 20165; *M. McQuinn*, 21090; *Geography—Denashy*, 15452; *Pedlow*, 20344; *Grammar—Pedlow*, 20344; *M. McQuinn*, 21090; *Industrial Scheme—Bateman*, 19992-3; *Science—Bradenham*, 18470-1; *Mont. Rev. Dr. O'Dwyer*, 16399-600; *Peckin*, 18259-3; *Deane*, 20011-3, 20028-7; *Reading—Archibald Hamilton*, 16197-9; *Forbes*, 19508-21.

Teachers' attitude towards—*Bradenham*, 18430-3; *Mont. Rev. Dr. O'Dwyer*, 16391-600; *Rosen*, 21136-9.

Extra subjects, payment for—*Deane*, 20038.

Effects of—*Powell*, 15123; *Denashy*, 15468; *Joyce*, 16167, 16304-3; *Lynskey*, 17343-3; *Walsby*, 17588; *Moran*, 18615-4; *Deane*, 20020-4; *Dalton*, 20213-24; *Pedlow*, 20345-34; *Beatty*, 20357-20380; *Brown*, 20661-63, 20678-9, 20685-6; *Rosen*, 21136-43, 21178-8; 21193-201, 21209-11; *Tristram*, 25066, 25166-6, 25183-32; *Macquinn*, 25229-4, 25286-7; *MacQuinn*, 25327-68, 25381-4, 25387-92; *Moore*, 25473-85; *Pearce*, 25745-71; *Stronge*, 25824-31.

Modification of, necessary—*Burke*, 15033; *T. J. Alexander*, 15138-4; *Denashy*, 15466-74, 15551-3; *Gosbell*, 15676, 15734-3; *Burke*, 16331-2; *Bradenham*, 18438-60; *Mont. Rev. Dr. O'Dwyer*, 16332; *Lord Montagu*, 16698; *Driscoll*, 16814, 16818-21; *Lynskey*, 17302-15, 17343-5; *Perry*, 17263-6, 17315-7; *Rev. J. Courtney Clarke*, 17487-91; *Cryan*, 18022-3, 18050-1; *Peckin*, 18225; *Doyle*, 18247; *Sweeney*, 18521, 18578-9, 18591-607; *Moran*, 18665-92; *Brown*, 18881; *Quinn*, 19285; *Macquar Byrne*, 19299-300; *Magill*, 19573, 19626-7; *Deane*, 20015-27; *Dalton*, 20147-8; *Pedlow*, 20322-35; *Brown*, 20677; *Cryan*, 20290; *Tristram*, 25067, 25132-52; *Macquinn*, 25211-3, 25311-4; *MacQuinn*, 25368-74, 25383-6; *Moore*, 25457-9; *Pearce*, 25742-3; *Stronge*, 25812-23, 25873-81, 25898-9.

Minimum attendance under—*T. J. Alexander*, 15253-3; *Denashy*, 15466, 15470-2, 15553-9; *Burke*, 16318; *Driscoll*, 16818-21; *Lynskey*, 17127, 17173-4, 17203-15, 17234-5; *Rev. J. Courtney Clarke*, 17480-61; *Cryan*, 17943-5, 18022-3, 18146-9; *Sweeney*, 18591-607; *Moran*, 18688; *Brown*, 19005-6; *Ward*, 19047-8; *Magill*, 19677-86; *Pedlow*, 20331-3; *Brown*, 21140.

In Scotland—*Aitken*, 21336, 21338-8, 21392-5, 21400; *Graham*, 22014-25, 22085; *S. M'C. Murray*, 22156, 22290-302, 22346-41; *Seagol*, 22309-654, 22619-26, 22658-61; *Caldar*, 22948-56.

(See also INSPECTION—Procedure by.)

S

RESULTS FREE SYSTEM.

In relation to—

Agriculture—*Powell*, 15125, 15126-7, 15151; *Denashy*, 15508-10; *Bateman*, 16125-4; *Burke*, 16315-8, 16327-32, 16382-5; *Lord Montagu*, 16698, 16731-3, 16744; *Cryan*, 18148-63; *Moran*, 18681; *Tristram*, 25172-5; *Moore*, 25418; *Manual Instruction—Burke*, 15033, 15045; *Powell*, 15109, 15113-5; *Joyce*,

SCHOOL ATTENDANCE.

In rural schools—*Landers*, 14464-5, 14674; *Denashy*, 15555-65; *Bateman*, 15928; *Lynskey*, 17102-9, 17190-3; *Cryan*, 17924, 18008-13; *Doyle*, 18241-3, 18248, 18283-40, 18332-6, 18407, 18410-1; *MacLachlan*, 18510-1.

SCHOOL ATTENDANCE—continued.

In Cookery and Agricultural classes in Scotland—*Aiken*, 21384-6, 21339-40, 21373.

Average necessary for Assistant—*Gairdrie*, 15606; *Between*, 15928, 15987-91, 16007, 16019-21, 16106-7; *Dugle*, 18288-9; *Ward*, 19056-7; *Spence*, 20457, 20625-6, *M'Hannara*, 21032; *Fraser*, 20687; *Makgiff*, 25195-6.

Methods of improving—compulsory discussed—*Denochy*, 19470, 15569-5; *Miss Spring Rice*, 15819; *Archibald Hamilton*, 1676-94; *Druidon*, 16817; *Cryan*, 17943-5; *Dugle*, 18290, 18295, 18353-6, 18410-11; *Sweeney*, 18517-21, 18571; *Moran*, 18837-44; *Brown*, 18982-85; *Ward*, 19045-6; *Montague Bryan*, 19328; *Brown*, 20649-51; *Stewart*, 21133-5, 21164, 21188-9, 21202-4; *Gray*, 21270-3; *Gibson*, 22318-61; *Cuthbertson*, 23003; *Macdonald*, 23819-41, *Agan*, 26215-7.

Compulsory Education Act—*Ward*, 19045-6; *Bailey*, 19639-64; *Spence*, 20450-1; *Brown*, 20724-30; *Stewart*, 21189; *Patterson*, 21282, 21308-9; *Macrae*, 21446-7; *Gray*, 21577-80; *Cuthbertson*, 22057-60; *Lean*, 23723; *Macdonald*, 23773-6; *Caldie*, 25928, 25937-47.

SCHOOL CLASSES—SIZE OF, AND LENGTH OF LESSONS IN.
Kerr, 23524-32, 23588-91.
(See also PUPILS.)

SCHOOL EXCURSIONS FOR EDUCATIONAL PURPOSES.

Chen, 19178, 19205-13; *Dalton*, 20119-23, 20131, 20245; *Bailey*, 20350-60; *Brown*, 20753-64; *Colquhoun*, 21424, 21433; *Melrose*, 21671-3; *Robert Wallace*, 22463-6; *Strang*, 25847-8.

SCHOOL HOPES AND SHADOWS.

Stirlington, 15554, 15562-3; *Pascoe*, 15141; *Miss Spring Rice*, 15836-9; *Bateman*, 15928-31; *Miss Mrs. Dr. O'Dwyer*, 16615-7; *Lord Montague*, 16689-700; *Archibald Hamilton*, 16792-4; *Druidon*, 16829-32; *Lally*, 16950-4, 17016-7, 17036-4; *Lynskey*, 17111, 17133-7, 17159-63, 17216-9; *Perry*, 17327-30; *Wright*, 17564-7, 17589-96; 17603-15, 17630-3, 17651-7, 17680, 17700-3; *Kelly*, 17747-8, 17763-9, 17810-3, 17818; *Hansen*, 17852-3, 17862, 17914-5; *Cryan*, 18028-33, 18086-93; *Dugle*, 18241-3, 18246, 18401-4, 18417-21; *MacLachlan*, 18442-4, 18479-84, 18513-6; *Moran*, 18694-702, 18827-31; *Ward*, 19074-6, 19091-4, 19152-6; *Montague Bryan*, 19293-4, 19298; *Forbes*, 19435, 19528-34; *Magill*, 19553-5, 19592-3; *Barnes*, 19817-23; *Dalton*, 20089-95, 20169-70; *Barbour*, 20605-9; *Brown*, 20710-2; *Barclay*, 20867; *Cargill*, 21014-20; *Patterson*, 21299, 306; *Dawerty*, 24413; *Payton*, 24893; *Fraser*, 25110-3; *Makgiff*, 25195-8, 25226-8, 25290-3; *Parer*, 25747-56; *Strang*, 25800-8, 25840-8, 25980; *Agan*, 26207-14, 26234, 26236-9.

In Scotland—*James Wallace*, 21315-8, 21544; *Melrose*, 21614; *Macrae*, 21852-3, 21851-3; *S. M'C. Murray*, 22247-51, *Miss Bander*, 22375, 22388; *Geo. W. Alexander*, 25220-3, 25282-3.

On Saturday—*Stirlington*, 15539-62; *Pascoe*, 15144-5; *Smith*, 15273-4, 15397; *E. J. Murray*, 15567-72; 15595-7; *Denochy*, 15583-4; *Miss Spring Rice*, 15837, 15911, 15922-3; *Bateman*, 15981-2; *Joyce*, 16175-6; *Barbour*, 16308; *Cryan*, 17924-31; *Dugle*, 18243, 18297, 18417-21; *Moran*, 18748-9; *Brown*, 18813-4, 19039; *Dalton*, 20125, *Barbour*, 20505-7; *Brown*, 20648; *Barclay*, 20867; *Cargill*, 20988, 21013-7; *Patterson*, 21291-3; *Fraser*, 25112-3; *Parer*, 25724-8, 25773-4.

SCHOOL, MUSEUMS AND COLLECTIONS.

Burke, 15045-7; *Denochy*, 15421-3; *Gairdrie*, 15628-35, 15695-6, 15713-4; *Bateman*, 16123-4; *Joyce*, 16288-9; *Barbour*, 16332, 16367-70, 16406, 16413; *Stewart*, 16425, 16496-503; *Lord Montague*, 16742-3; *Rev. J. Conventry Clarke*, 17420-21; *Wright*, 17617-8; *Hansen*, 17881; *Cryan*, 18121, 18154-8; *Dugle*, 18801-11; *Agan*, 19210; *Dalton*, 20151; *M'Hannara*, 21034, 21053; *Patterson*, 21247; *Robert Wallace*, 22448-50, 22455, 22493-7; *Dawerty*, 24197; *Payton*, 24777-8; *Macrae*, 25044-50, 25060-1; *Cole*, 26101-3.

SCIENCE AND ART DEPARTMENT.

In connection with—Agriculture in Scotland—*Aiken*, 21386-7; *Robert Wallace*, 22425-6, 22445; evening schools in Scotland—*Fair*, 32941-2.

Payments by, in England, Ireland, and Scotland—*Patterson*, 21229-30; *Agan*, 22740-2.

Drawing under—*Burke*, 15030; *Denochy*, 16412-30; *Brown*, 20723-9; *James Wallace*, 21522-31; *Melrose*, 21568-9; *S. M'C. Murray*, 22176-80; *Agan*, 22724-41, 22744, 22754-86; *Cryan*, 22827-30.

Manual Instruction under—*Gargery*, 14700-3, 14761-4, 14782-6; *Brown*, 18578-82; *Aiken*, 21324-6, 21337-8; *James Wallace*, 21523-31; *Macrae*, 21706-11, 21819-24; *Gray*, 21981-5; *S. M'C. Murray*, 22176-80; *Agan*, 22744; *Fraser*, 25063-72.

Science Instruction under—*Gargery*, 14731, 14772-5; *E. J. Murray*, 15357-66, 15590-3; *Joyce*, 16224-5, 16231-6, 16285-7; *Miss Rev. Dr. O'Dwyer*, 16548; *Cryan*, 17963-73, 18014-21, 18027-9, 18040, 18056-65, 18075-6, 18112-5, 18122-42, 18170-80; *Dugle*, 18263-73, 18345; *Dalton*, 20303-7, 20310-4; *Barbour*, 20636-8, 20674-5, 20614-5; *Barclay*, 20871-5; *Patterson*, 21229-32; *S. M'C. Murray*, 22320-2; *Agan*, 22744-7; *Cuthbertson*, 23004-8, 23039-41, 23065-6, 23120-6; *Kerr*, 23582-7; *Payton*, 24836, 24853-8; *Barrett*, 25116-21.

(See also TECHNICAL EDUCATION in Galway.)

SCIENCE INSTRUCTION.

Archibald Hamilton, 16765, 16768-72; in Model School, 1883—*Payton*, 24834-48, 24832-5, 24912-3; in Model School, Omagh, —*T. J. Alexander*, 15245-5; *Barbour*, 20662-5, in Model School, Cork—*E. J. Murray*, 15357-66, in Model School, Carrickfergus—*Barbour*, 20636-95, in Diocesan School, Waterford—*Smith*, 14593-4; in Master Dany School—*Barter*, 14833-42, 14848-50, 14851-3; in Christian Schools, Lismore—*Gargery*, 14730-3, 14772-5; in Christian Schools, Cork—*Burke*, 15050-1.

In Scotland—*Aiken*, 21324-6, 21352-4; *Gairdrie*, 21467-74; *Macrae*, 21837-8; *S. M'C. Murray*, 22158-73, 22214-46; *Swagill*, 22525-38, 22561-76, 22594, 22603-12, 22669-84, 22687-90, 22703-4; *Agan*, 22744-7; *Fair*, 22943-4, 22946-45, 22983-4; *Cuthbertson*, 23004-13, 23018-24, 23037-52, 23065-73, 23077-9, 23100-6; *Geo. W. Alexander*, 23140-1, 23147-67, 23173-82, 23218; *Kerr*, 23493-511, 23540-5, 23552-5, 23560, 23568-76, 23582-9, 23592-6, 23601-3; *Macdonald*, 23725-7; *Caldie*, 23731-8.

Approved and advantages of, in elementary schools—*Thomas*, 14277, 14340, 14387-9; *Gargery*, 14730; *Richard Bennett*, 14945-5; *Burke*, 15035-6, 15048-9, 15076-7; *Smith*, 15273, 15277, 15284-3; *Denochy*, 15421, 15440, 15453;

SCIENCE INSTRUCTION—continued.

Gamble, 15697-708; *Joyce*, 16193, 16260-5, 16307; *Most Rev. Dr. O'Dwyer*, 16547-9, 16611-4; *Lord Montagu*, 16780; *Lally*, 17058-61; *Lyndley*, 17143-2, 17164; *Perry*, 17301; *Walsh*, 17624-5; *Hansen*, 17852; *Cryan*, 18138-40; *Dwyer*, 18468-9; *Ward*, 19125-31; *Forbes*, 19435-7, 19453, 19487-8, 19523; *Dalton*, 20084; 20119; *Pollan*, 20314; *Barbour*, 20567-9, 20578-80; *Brown*, 20638-5, 20669-74; *Eardley*, 20920-4; *M'Connell*, 21054; *Paterson*, 21283, 21319; *Scougal*, 22526-7, 22594, 22671-84; *Cuthbertson*, 22923-4, 22944-5, 23065-73; *Kerr*, 23540-2, 23552-5; *Doherty*, 24178, 24191, 24345-6; *Pepton*, 24859; *Tristram*, 25119-20; *Moore*, 25511, 25529; *Parer*, 25691; *Johnson*, 25966; *Barratt*, 26109, 26136-9, 26160-1; *Hardley*, 26248.

Approval and advantages of, as a foundation for technical education—*Thomas*, 14272, 14277, 14340, 14357; *Lander*, 14672, 14687; *Baxter*, 14848-50, 14855; *Ludlow Russell*, 14898-9, 14901-7; *Burke*, 15094, 15097; *Bateson*, 16085-8; *Barkitt*, 16356, 16385-95, 16407-9; *Most Rev. Dr. O'Dwyer*, 16524; *Lord Montagu*, 16691; *Lyndley*, 17198-204; *Eardley*, 20594-6.

Teachers attitude towards—*Thomas*, 14272, 14297; *Most Rev. Dr. O'Dwyer*, 16599-600; *Dwyer*, 19454-5; *Eardley*, 20915, 20967-8; *M'Connell*, 21068.

Preferred to manual instruction—*T. J. Alexander*, 15192; *Most Rev. Dr. O'Dwyer*, 16542; *Dwyer*, 19907; *Paterson*, 21518; *Doherty*, 24193.

Course of—*Thomas*, 14370-2, 14390; *Burke*, 15093-6; *E. J. Murray*, 15362-4; *Bateson*, 16038-9, 16126-8; *Joyce*, 16162, 16257-8, 16260-72, 16283-9, 16311-8; *Brown*, 19029-4; *Ward*, 19136-9, 20198-302; *Barbour*, 20576-81; *Brown*, 20671-8, 20715-8, 20813-4; *Eardley*, 20964-9; *Cryan*, 20988, 21021-3; *Brown*, 21122-3, 21158-63; *Paterson*, 22225-7, 21314-6; *S. M'C Murray*, 22156-74, 22213-46; *Scougal*, 22528-30, 22561-75, 22708-4; *Ward*, 22945-4, 22957-67, 22982-4; *Cuthbertson*, 23005-6, 23012, 23018-20, 23037-41, 23047-52; *Geo. W. Alexander*, 23151-2, 23160-7, 23180-2; *Kerr*, 24493-7, 23500-11, 23560, 23568-76, 23582-4, 23592-6; *Caldar*, 23836-8; *Doherty*, 24303-14, 24329-65, 24334-9, 24385-81; *Pepton*, 24741-56, 24832-3, 24843, 24860-75, 24867-8; *Moore*, 25413, 25415, 25585-80; *Parer*, 24692-4; *Brown*, 25859-61; *Johnson*, 25970-1, 26049-50; *Cole*, 26078-89, 26099-105; *Barratt*, 26109-13, 26133-3, 26160-1, 26173-6, 26196-84; *Hardley*, 26246-9, 26261, 26269-75, 26285, 26297-360.

By means of reading lessons—*E. J. Murray*, 15399-403; *Gamble*, 15634; *Joyce*, 16260-5, 16304; *Dwyer*, 19917-20; *Brown*, 20438-4, 20694; *S. M'C Murray*, 22188-9; *Kerr*, 22808-7, 23510, 23592-6.

Mathematical subjects in—*Thomas*, 14298-300; *Stegington*, 14555-7; *Gogarty*, 14772-5; *Ludlow Russell*, 14899; *Dwyer*, 15412, 15438, 15459, 15468-8; *Joyce*, 16169-71, 16236-80, 16290-7; *Bradshaw*, 16426; *Drishane*, 16840-1; *Hansen*, 17858, 17876-8; *Brown*, 18992-3; *Ward*, 19072; *Walsh*, 19672; *Dwyer*, 19553-50, 19597-502, 20002-4, 20006-15, 20025-7; *Pollan*, 20287, 20293; *Brown*, 20315-9; *Eardley*, 20827, 20851-2, 20885-8, 20941-4; *Brown*, 21126; *Paterson*, 21237-8; *Auten*, 21325-6; *Jerome Wallace*, 21824, 21859-60; *S. M'C Murray*, 22187-8, 22943-4, 22956-8.

SCIENCE INSTRUCTION—continued.

By ordinary or special teacher—*Burke*, 15088-9; *Dwyer*, 15680; *Perry*, 17308; *Forbes*, 18223, 18230-5; *Monaghan Byrne*, 19022-8; *S. M'C Murray*, 22159-61, 22315-7; *Scougal*, 22543-5, 22587-90; *Cuthbertson*, 23009; *Geo. W. Alexander*, 23159; *Johnson*, 25967.

Training of teachers in—*Thomas*, 14315-8, 14345, 14351-3; *Stegington*, 14540-4; *Burke*, 15046, 15088-9; *Smith*, 15284-5; *E. J. Murray*, 15378-82; *Dwyer*, 15580-3; *Gamble*, 15634-3; *Bateson*, 16025-8, 16086-9; *Most Rev. Dr. O'Dwyer*, 16550-1, 16560; *Hansen*, 17876-8, 17884-9; *Cryan*, 18112-5; *Forbes*, 18236-8; *Dwyer*, 18274-5; *Monaghan Byrne*, 19291-6, 19368, 19387-94; *Dalton*, 20903-7; *Eardley*, 20933, 20959; *M'Connell*, 21065; *Brown*, 21155-6; *Paterson*, 21317; *Auten*, 21324; *S. M'C Murray*, 22168; *Scougal*, 22535-7; *Cuthbertson*, 23013, 23038; *Kerr*, 23577-81; *Doherty*, 24391; *Barratt*, 26172-6; *Hardley*, 26261-8, 26343-51.

(See also TRAINING COLLEGES; AND SCIENCE, ROYAL COLLEGES OF, DUBLIN AND LONDON.)

System of, formerly, by peripatetic lecturers—*Forbes*, (captive evidence), 18131-288; *Brown*, 19025-7; *Dwyer*, 20011-4; *Eardley*, 20822-7, 20849-76, 20899-934; *Paterson*, 21294-7; *Doherty*, 24282-4.

Experimental course of, advantage of—*Thomas*, 14277, 14340; *Burke*, 15085-6, 15094-6; *E. J. Murray*, 15386-7; *Dwyer*, 15483; *Bateson*, 16126-8; *Joyce*, 16267-72; *Rev. J. Courtenay Clarke*, 17385; *Cryan*, 18063-5; *Brown*, 18997-502, 18910-27; *Ward*, 19069-71; *Monaghan Byrne*, 19382; *Dwyer*, 19861-5, 19873-80; *Barbour*, 20556, 20573-86; *Paterson*, 21224-8; *Kerr*, 23499-511, 23573-6, 23801-6; *Barratt*, 26182-4.

Children making experiments, approved of—*Thomas*, 14278-9; *Gogarty*, 14732-3; *Gamble*, 15700-8; *Barbour*, 20587-90; *Eardley*, 20877-84; *Brown*, 21124-5; *Paterson*, 21282; *Robert Wallace*, 22456-5; *Scougal*, 22574-5; *Doherty*, 24193; *Cole*, 26088-9; *Barratt*, 26158-9, 26170-1; *Hardley*, 26248.

Children's interest in—*Thomas*, 14279; *E. J. Murray*, 15386; *Cryan*, 18064-9; *Barbour*, 20567-9; *Eardley*, 20813-4; *Brown*, 21157-8; *Paterson*, 21280-2; *Scougal*, 22578-6; *Cuthbertson*, 23018-21.

Apparatus, cost of, and funds for, provision of—*Stegington*, 14545-6; *Burke*, 15036, 15097; *E. J. Murray*, 15383-5; *Forbes*, 18202-7; *Dwyer*, 18862-3, 20005-7; *Brown*, 20719-22; *Eardley*, 20922-30; *Auten*, 21325-6; *S. M'C Murray*, 22281-4; *Scougal*, 22538; *Tait*, 22582; *Cuthbertson*, 23063; *Geo. W. Alexander*, 23140-1, 23147-58, 23173-80, 23218; *Pepton*, 24891-2, 24910-6; *Moore*, 25413-5.

Introduction of, difficulty of—*Burke*, 15035-6; *Cryan*, 17971-8; *Brown*, 21153-5.

(See also TECHNICAL EDUCATION in Galway.)
(See also INTERMEDIATE EDUCATION.)

SCIENCE, ROYAL COLLEGE OF, DUBLIN.

Johnson, 25901-6, 25941-4, 25986-95, 26038-48, 26061; *Hardley*, 26238-65; *Training teachers in—Johnson*, 25906-14, 25924-40, 25944-65, 25968-85, 25994-2034, 26072-3; *Cole*, 26018-85, 26039-7; *Barratt*, 26123-32; *Hardley*, 26253-68, 26276-87, 26296-304.

SCIENCE, ROYAL COLLEGE OF, LONDON.

Training teachers in—*Johnson*, 25907-3, 25915-40, 25945-9, 26019-25; *Cole*, 26056-67, 26075-7, 26090-2; *Barratt*, 26135-6.

SCIENCE CODE:

See ELEMENTARY SCHOOLS in Scotland.

SEWING MACHINE:

Stirlington, 14494-6; *Smith*, 15362; *Stewart*, 15950-1, 15953-6, 16045-6, *Brooks*, 16436; *Patterson*, 21233-4.

SHOETHEAD:

Burke, 15098; *Powell*, 15106-7, 15123; *Smith*, 15309-14; *Mont. Rev. Dr. O'Dwyer*, 16513-5; *Archdeacon Hamilton*, 16725; *Doble*, 18350-3; *Mayhew*, 18550, 19629-2, 19649-51; *Tristram*, 20050.

In Scotland—*Atkin*, 21325; *Moloch*, 21592-4; *Moore*, 21877-89; *Tait*, 22986-7; *Macdonald*, 23867; *Caldie*, 23919-20.

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APPENDIX A.

APPENDIX A.

DOCUMENTS.

I.

MEMORANDUM by the COMMISSIONERS OF NATIONAL EDUCATION on the subject of MANUAL INSTRUCTION, and the TEACHING of ELEMENTARY SCIENCE and ART in PRIMARY SCHOOLS in IRELAND.

For some time past the Commissioners of National Education have been aware that a general feeling exists that in the system of primary education which they administer, too great preponderance is given to a purely literary education, as distinguished from manual instruction and the cultivation of habits of observation; or, in other words, from what is now recognised under the title of Hand and Eye training.

The Commissioners regret with much concern the extremely backward position Ireland occupies when compared with other portions of the United Kingdom, and with Continental countries, in the matter of Technical Education, to which the training of the Hand and Eye in elementary schools is an essential preliminary.

This training of the faculties, with a view to the cultivation of manual skill and dexterity, and habits of observation, has been advocated on the following, amongst other grounds:—

1. Manual Instruction aids in the development of moral qualities, such as accuracy, industry, perseverance, &c.

2. It has been recognised by medical authorities as having a beneficial effect on general mental development: it stimulates the intelligence of the pupils, and increases their interest in other school subjects.

3. It develops the constructive faculty and fosters a sense of individuality in the pupil, as the work which he executes is so largely the result of his own labour.

4. It inspires respect for bodily labour, and corrects the notion that literary occupations are necessarily more dignified than those of the skilled artisan.

5. Such training in elementary schools forms a necessary preparation for the higher education given in technical schools, and its extension would thus greatly increase the industrial capabilities of Ireland.

6. The cultivation of habits of observation brings children into contact with things, as distinct from mere names, and so makes their knowledge more real. This would be specially advantageous as regards Agriculture, the instruction in which is, in the National Schools of Ireland, at present for too theoretical.

The Commissioners desire to refer to a most interesting Report on *Sloyd* and *Kindergarten*, by Mr. Struthers, one of Her Majesty's Inspectors of Schools in Scotland published last year. [Par. Paper, C—7705.]

A matter that has been pressed on the notice of the Commissioners is the necessity for introducing, as an essential constituent of Manual Instruction, the general teaching of Elementary Science, especially in relation to Agriculture in the National Schools, by means of a graduated series of lessons in science adapted to the successive standards.

His Excellency is aware that in most civilized countries provision is made for Manual Instruction, and the teaching of Elementary Science and Art.

Drawing is almost everywhere compulsory. Elementary Science is an essential subject in French and German primary schools, and in England Object Teaching is being made compulsory. Manual Instruction will be compulsory in all French schools in three years. It is compulsory in urban schools in Norway. It is universal in Sweden, and very general in Germany, Austria, Italy, Switzerland, Belgium, Holland, and the United States. In England it is spreading rapidly. In the Revised Instructions issued to their Inspectors in 1895, the Committee of Council on Education state that one of the objects of the alterations made in recent Codes has been to give further encouragement to the teaching of Drawing and Elementary Science, and to Manual Instruction.

The Commissioners are satisfied that although the feeling in favour of the introduction of Manual Instruction into Ireland is widespread, a large amount of uncertainty and vagueness exists as to the entire subject. Before making any considerable modifications in their school system, in the direction of Manual and Science teaching, they think that they should have full information on the subject, and that all who are interested in it should have an opportunity of offering suggestions and considering in detail the various schemes which may be proposed.

The special conditions of Ireland require careful consideration to determine what system should be introduced, how it should be introduced, and how Managers, Teachers, and Parents may be prepared for its acceptance. The Board think that these important ends could best be attained by the appointment of a Commission to report on how Manual Instruction and the teaching of Elementary Science and Art should be introduced into primary schools in Ireland.

The Commission should (1) obtain information, and (2) formulate a working scheme.

(1.) Information might be obtained by:—

- (a.) Getting evidence from experts;
- (b.) Sending persons conversant with the requirements of Ireland to report as to the systems in existence elsewhere.

For example, information as to the working of *Sloyd* in Sweden would be of importance with the view of introducing it, or some modification of it, into Ireland. This information should be obtained by means of evidence from those who have been engaged in working the *Sloyd* System, and also by sending over persons acquainted with the requirements of Ireland to see how the System is worked in Sweden. Without both of these methods of obtaining information it will not be possible to bring the matter in the most effectual way before the public in Ireland, and to secure the wisest advice as to how such a reform, or a modification of it, can best be introduced into our primary schools.

In a similar way information is required as to the provision made for object teaching, and for education in Agriculture and in Elementary Science and Art, in primary schools in England and on the Continent.

(2.) In formulating a scheme for practical education in Ireland, several matters require special considera-

tion, viz. —(a) what changes in our present courses are required to make room for this practical instruction in town and in country schools, respectively; (b) how teachers are to be trained to give it; (c) how far peripatetic or other than the regular school teachers may be required; (d) how the apparatus and material required for practical instruction are to be provided, and (e) how night schools and continuation schools are to be developed. In addition to these, other matters will certainly arise for special consideration. A comprehensive workable scheme can only be formulated by the co-operation of those acquainted with what has been done elsewhere, and those acquainted with the requirements, prejudices, and capabilities of Ireland.

A great difficulty in altering a system of education is to satisfy those who will have the duty of working it, as to the necessity for the change, and as to the objects aimed at in making the change.

This is particularly necessary in Ireland, where the majority of schools are under the management of individuals who have each to be convinced of the

importance of the proposed change. Managers and Teachers may be indisposed to alter a system they are familiar with, and parents are naturally led by the best educated advisers within their reach. Under these circumstances the Board attach much importance to the holding of a public investigation by a Commission in Dublin, and in other centres in Ireland, so that Managers and Teachers may have an opportunity of stating their views, and of having the reasons for a modification of the present system of primary education brought before them.

As the Board of National Education have neither the authority nor the funds requisite for the holding of such an inquiry, they approach His Excellency with the view of moving Her Majesty's Government to appoint a Commission to carry out the objects mentioned in this Memorandum, with any others that His Excellency may approve.

NATIONAL EDUCATION OFFICE,

DUBLIN, 28th July, 1895.

II.

STATEMENT by HIS GRACE the MOST REV. DR. WALLACE, on the subject of MANUAL TRAINING, made on the occasion of the deputation of the Commissioners of National Education to His Excellency the Lord Lieutenant on August 18, 1895.

HIS GRACE the Archbishop said—*I have been asked to state to your Excellency some of the reasons that have led us to ask for this audience in connection with the proposal for the introduction of an organised, comprehensive scheme of manual instruction into our system of National Education in Ireland. For myself, I am bound to say that, although I have long taken a very deep interest in this subject, I cannot lay claim to any very special knowledge of it in its details. The only reason indeed that I know of for my being asked to make this statement here to-day is that it was I who happened to bring the subject forward at a meeting of our Board, and to move a resolution in reference to it, which, I am happy to say, was unanimously adopted by the Commissioners.*

It is satisfactory for me to be able to feel that there is not very much that need be said upon the subject of our deputation outside what is contained in the Memorandum which we already have had the honour of submitting to your Excellency. A few points in that Memorandum may perhaps bear some development. Beyond that, I do not think there is anything to be done. The Memorandum refers to the widespread feeling that exists in Ireland, that, in the system of education which we administer, too much prominence is given to the merely literary instruction of the children, their instruction in mere book-knowledge and in matters that are in no way directly related to the work that lies before them in the world.

The case in support of the proposal to give to our system of National Education a more practical character than it as yet has had, is very easily stated. The school—the elementary school as well as every other—has a twofold work to do. It is a place for the instruction of the children, for the putting into their minds of a certain amount of useful knowledge, or of what is supposed to be useful knowledge. It is a place also for their education, in the proper sense of the word, I mean, for the drawing out, the development, the cultivation, of their natural powers and capacities. Under both these heads, a claim is put forward for the fuller recognition of the practical element in the work of the school. As regards instruction, it is claimed that provision should be made for such a course of teaching as will make the children familiarly acquainted, not merely with words and with the names of things, but also with the things themselves which those names and words represent. And again, as regards training and development,

it is claimed that provision should be made for the training of the hand and of the eye, as well as for the training of the intellect.

It is hardly fair to occupy your Excellency's time by pointing out that some writers who are regarded, especially in England, as eminent authorities on such matters, insist upon all this as essential to the completeness of every system of education, quite irrespective of any special wants of the particular class to be educated. Professor Huxley, for instance, has said that even "if there were no such things as industrial pursuits, a system of education that does nothing for the faculties of observation, that trains neither the eye nor the hand, and is compatible with utter ignorance of the commonest natural truths, might still be regarded as strangely imperfect." Now I am not called upon to adopt that strong way of putting the case. For we have not to do with any such hypothetical case. We have to face the fact that not only are there such things as industrial pursuits, but that we, the Commissioners of National Education in Ireland, are charged mainly with the education of the children of the industrial classes of our country.

It is by means of industrial pursuits that these children are to make their way in the world, and their success or failure in life must largely depend upon how they have been fitted for those pursuits when they come to enter upon them. So then, the instruction and the training which, to so large an extent undoubtedly, we still lacking in our system, are precisely those which, in the sphere of secular knowledge, are of the very first importance to the vast majority of the children whom we have undertaken to educate.

I happened, a few weeks ago, to look through the pages of a publication that circulates widely, I understand, amongst the teachers of our Irish National Schools. I found in it a sharply antagonistic comment on the proposal, which was then known to be under the consideration of the Commissioners, for the introduction of a system of manual training into our schools. The writer spoke of this as a "fad." Why, he asked, should the children of the National Schools be selected as the victims of this experiment? When such things, he said, are introduced into the schools for the children of "the classes," then it will be time enough to think of introducing them into the schools for the children of the masses. Now it

surely should not be necessary to point out that it is precisely because our National Schools are schools for the children of the masses of our people, that the demand has been made for a change, and a comprehensive change, in this direction.

It is, as I have said, the view of not a few who are regarded as high authorities upon Educational subjects, that it is desirable, in the interests even of the children of the professional and other higher social classes, that, even in their Schools, provision should be made for a scientific course of manual training. Professor Huxley's words, which I have quoted, go that length; and, personally, I am not at all inclined to dissent from what he has said upon that point. But that is not the point of our present case. We have to do with the education, not of the children of the higher social classes, but of children who, in nine cases out of ten, will have to earn their bread by industrial pursuits. Why should it be suggested that such children should be deprived of that special instruction and that special training, that would most directly tend to fit them for their work in life? Why, above all, should this be suggested on the ground that no such training and instruction, or but little of it, is given to those other children, whose fortune it is that when they leave school, they will be under no necessity of earning their bread by manual industry?

There was a time when education was the privilege of the few, when, in fact, it was all but exclusively confined to those who were destined for the learned professions, who were to be lawyers, or doctors, or priests. This restriction of the sphere of education, naturally, according to the views of the time, determined the course of studies as it was then conceived. The course was thus determined by its ultimate aim and object, from the very rudiments on to the end. Then came a later time, when broader views began to prevail upon the subject of the diffusion of education amongst the masses of the people. Gradually that great change came about, but by a strange anomaly, the old course of school studies held its ground almost unchanged. The demand that has come to be so widely made in our own day, for a comprehensive change in the curriculum of the Primary School, is simply a demand for the removal of that longstanding anomaly, and for a solid practical recognition of the established fact that education is no longer the exclusive possession of any privileged classes, but is the birthright of every child that is born into the State—the birthright of the future artisan, the future agriculturist, the future agricultural labourer, as well as of the future lawyer, or the future member of any other learned profession.

I venture to say, your Excellency, that there are few subjects connected with public affairs in Ireland upon which you will find a nearer approach to unanimity than you will find upon this, that, as regards the system of education in our National Schools, the time has come for looking into this whole question in an earnest and practical spirit, with the view of introducing into this system, in so far as it may be found practicable to do so, a well-considered scheme of more practical teaching and more practical training than we as yet have had. Therefore, it is that we have come to your Excellency to-day, asking you to take whatever steps may be necessary for the holding of a public inquiry upon this subject.

It may, perhaps, be asked, why we,—Commissioners, as we are, of National Education,—do not introduce this practical element into the system ourselves? What need can there be for the holding of any inquiry about it? Or if, for any reason, an inquiry be necessary, why cannot we hold the inquiry ourselves, without seeking for the intervention of the Lord Lieutenant? Your Excellency is aware that the responsibility of framing the course of education in the National Schools of Ireland is borne by the Commissioners only to a somewhat limited extent. There are, I believe, cases on our records—some of

them touching very closely upon this matter about which we have come to your Excellency to-day—in which an official correspondence had to be continued for a number of years before the Commissioners were set free to make certain changes which they desired to make in the system of education which they administer. Changes involving the possibility of any increase in expenditure, even through the facilitating of the earning of some additional results fees, can be made by us only with the approval of the Irish Government and of the Treasury. It is but natural, then, that when there is question of a far-reaching change, such as that which is now under consideration, we should, in the very first instance, take steps to ascertain whether what has been proposed is to be regarded even as feasible.

We seek, in the first place, to do this by bringing this important matter under your Excellency's notice in this prominent way. Then, as to our request for a formal public inquiry upon the subject, I beg to assure your Excellency that we have not put forward that request without being fully convinced, not only of the advantage, but of the practical necessity, of such an inquiry, for the attainment of the object we have in view. I trust there is no want of respect in my saying to your Excellency—expressing in this merely my own personal view—that I have, as a rule, very little faith in such a mode of procedure. But there are exceptions to every general rule, and I cannot but regard the present case as eminently exceptional. There is no great point of public policy at issue. There is really question of but little more than of a matter of degree, and of the selection of the most efficient means for the attainment of an admittedly desirable end. If ever there was a case in which a practical outcome might be expected from a public inquiry, I cannot but consider that we may expect a practical outcome from the inquiry which we ask your Excellency to set on foot.

As to the reason for holding this inquiry, we regard it as necessary on two distinct grounds. In the first place, widespread as the feeling is, in favour of the introduction of a system of practical instruction and of practical training into our schools, it is, I am sorry to say, a feeling characterised by looseness and vagueness, to a most unsatisfactory degree. Many of the suggestions that have been made from time to time by earnest advocates of reform in this direction, are regarded by other no less earnest advocates of it as crude and impracticable. Some of those suggestions, it is objected, would involve the turning of our National schools for boys into so many carpenters' workshops. Against some others it is said that they would involve the turning of our National schools for girls into so many kitchens or laundries. The teaching of trades, of one kind or another, is as strongly insisted upon by some earnest critics of our present system, as it is objected to by others amongst them. Is all this, plainly, there is a mass of confusion to be cleared away before any real progress can be made? We, for our part, do not see how that confusion can be cleared away except by means of a public inquiry, an inquiry in the course of which all who have any definite suggestions to offer upon the particular aspect of the case with which we have to do, should have the opportunity of putting forward those suggestions, of explaining them in detail, and, in so far as it might become necessary, of justifying them when brought to the test of principle, or confronted by any conflicting scheme. Until this has been done, we do not feel that we could undertake with any prospect of success the formulating of a working scheme that would receive, either from the public at large or from the managers of schools, that general support without which it would be vain to expect that any scheme of popular education could succeed.

I feel, your Excellency, that it would be altogether out of place for me to indicate my personal view upon any of the points of detail in the case. On some of them I am free to confess my inability to

APPENDIX A.

form any very definite view, in the absence of that information which an inquiry, such as we seek for, would, I am confident, elicit. There is, however, one point upon which I am absolutely clear; and I do not think that it can tend in any way to prejudice any fair subject of inquiry if I express my view upon it. It is, that the teaching of trades is the one thing that we should absolutely make up our minds not to admit into our schools. As to this, the attention of the public, at least in Ireland, has not, I fear, been as yet sufficiently directed to the broad line of distinction that separates what is properly designated as "technical" education on the one hand, from manual training on the other. By "technical" education, as I now use the word, I understand instruction in particular arts, or trades, or complete processes of manufacture, and the like. It will hardly, I think, be questioned that instruction of that kind has to be regarded as altogether out of place in a primary school. The work of such a school, as I conceive it, in the sphere of industrial training, should be confined to that general training of the faculties, especially of the hand and of the eye, which underlies all industrial training, of whatever kind, and which is not specially connected with any trade or occupation, but stands in an equally useful relation towards all.

Not merely as an illustration of my meaning, but also because it helps to bring out a point of considerable practical importance in connection with our view of the need for a formal inquiry into all this matter, I take that system of manual instruction which has proved so successful in so many ways in the primary schools of Sweden—the *Sloyd* system, to which we have referred at length in our Memorandum. In that system, as your Excellency is aware, the material used for the work of the children is wood. But one of the very first points laid down in every treatise on the system is that *Sloyd* is a wholly different thing from carpentry.

It is, in its essence, an educational system. There is a carefully graduated series of objects to be made, seventy or eighty, I think, in all. These lead on, one to another, almost like the propositions in Euclid. They are so carefully graduated that the second introduces some different, but only slightly different, use of the simple tool that was used in the making of the first; and so on, from first to last, until at the end of the well-arranged course the use has been learned of each of the various tools that it is considered advisable to compass within the system. There is no division of labour, as there is in carpentry as a trade. Every object made must, from its beginning to its completion, be the work of the one pair of hands of the one individual child.

These objects are of no commercial value, at least they are not valued for their own sakes. So far as intrinsic value goes, they might be destroyed as soon as they are made. As has been well said in one of the best expositions of the system, they are, in this respect, like the pages of the copy-book that the child fills in when learning to write. It is not the objects themselves, but the making of them, that is looked to. It is the work of making them, that constitutes the means to the end that is aimed at—that end being the cultivation, not only of manual dexterity, but of accuracy, of carefulness in little things, of neatness, of self-reliance, of patience, of perseverance, of concentration of thought upon the work to be done, of love for honest, well-finished work—in a word, the training and cultivation of all those faculties and habits which it is of the highest importance to cultivate as a preparation for the business of life.

Now one of the main advantages which I, at least, look forward to as a result of the heading of an inquiry such as we suggest, is the fastening of public attention upon the vitally important distinction between technical education, strictly so-called, on the one hand, and manual training, as illustrated, for instance, by the *Sloyd* system, on the other. Possibly the *Sloyd* system—admirably as it has succeeded in Sweden and

in some other countries—might not, without some modification, be adapted to the special circumstances of Ireland. But no one who knows anything of that system will think of denying that it is a system which has to be most carefully studied, in its principle and in its details, before any scheme of manual instruction is formulated for our Irish National Schools. The examination of it, if it is to be made with effect, may involve the sending over of one or more really competent observers, possibly to Sweden, but at all events to England, where the *Sloyd* system, whether in its original form, or in some modification of it, is now being worked in a number of elementary schools. So that, Your Excellency, for our own guidance, as well as for the useful indirect result that may be looked forward to, the formation and steadying of public opinion upon definite lines, an inquiry such as it would not be possible for us, with our present powers and resources, to hold it, in our opinion, a matter of necessity if any really useful work is to be done.

I would apply this remark also to many other points involved in the case. By way of illustration, I may mention a few of these. But having occupied so much of Your Excellency's time with the consideration of one main branch of the subject in detail, I need hardly say that I mean only to mention them. Is there, for instance, room in our system for the introduction of any comprehensive scheme of mental training without displacing something else? If anything is to be displaced, what should it be? Then, again, what provision, as regards teachers, should be made for the work of this new department? Can our present teachers, or many of them, be considered competent to undertake it? In so far as they may be competent to undertake it, how could we best make it worth their while to do so? Again, what provision should be made for giving special instruction in this branch of work in our Training Colleges? Would it be requisite for us, either as a temporary or as a permanent provision, to employ the services of special district or peripatetic teachers? What amount of time should be given to manual training, and should it be made compulsory, and, if so, to what extent, in our schools, or in any of them?

Then there are the further questions, which, like those others, I shall merely enumerate. Drawing lies at the root of all technical instruction, and of all manual instruction that is to lead up to technical work. Should not Drawing then be taught in all our schools? As to this, there seems to be a strong public feeling—a feeling in which I need hardly say that I personally and strongly concur—that it ought to be. But side by side with this strong public feeling there is a sublime public indifference to the very important practical consideration of who is to teach it. Again, I take the teaching of Elementary Science—I mean, of course, the real practical teaching of it, not the unreality that is sometimes gone through under the name of teaching, the only object of which is to enable children to earn money, for themselves or for their schools, by sitting down at a desk and writing out answers to questions in an examination paper about natural laws that they have never seen illustrated by experiment, or possibly describing some scientific instrument, of which they know nothing except what can be made out from a description, or a picture, in a book. Is this practical teaching of Elementary Natural Science to be made a subject of our school course? If so, then how are the necessary appliances for the teaching of it to be provided? Finally, and perhaps I should say above all, what special training and instruction are to be provided as best adapted for the children in country districts, children whose work in life will most probably be in connection with agriculture, or will be connected, at all events, in some way or other, with land? and, in general, what line should be followed in all this matter in distinguishing between our town and our country schools?

These, and even many other questions, have to be

considered in the light of the best advice that we can obtain for our guidance in the consideration of them. Prominent public men, members of representative bodies, teachers of National and other schools, managers of schools, all who have given any thought to this important subject, can give valuable help, and many of them, I am confident, will give it willingly. But unless the necessary funds are provided—and we have no funds available for any such purpose—unless provision, as is usual in cases of public inquiries, be made for the payment of the necessary expenses, we could not expect that many persons, no matter how anxious they might be in the interests of education, would undertake, for instance, a journey to Dublin for the purpose of helping even in this important work.

On the other hand, as Your Excellency knows, we, Commissioners of National Education, are not in a position to undertake an inquiry of any kind outside the limits of our own office.

On these various grounds, then, impressed as we are with the importance of the subject, and convinced as we are of the necessity of having it thoroughly investigated before any definite action is taken, we have come to request of Your Excellency, as representing the public authority of the country, to take those steps that may be necessary to enable such an inquiry to be held in whatever form Your Excellency may regard as giving the best promise of a useful practical result.

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MEMORANDUM by CAPTAIN SHAW ON FORMS OF MANUAL AND PRACTICAL INSTRUCTION IN PRIMARY SCHOOLS.

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DRAWING.

This subject is compulsory in all boys' schools in England and Wales receiving grants from the Education Department, and is only permitted in schools for girls where cookery is taught to the girls in the higher standards. In the report for the year ended 31st August, 1895, the number of schools in which Drawing was taught in England and Wales was 18,865. The total of schools is 19,709.

Drawing is not compulsory in Scotland, but is taught in 891 schools, the number of schools being 3,054.

The payment for Drawing and the inspection in schools in England, Wales, and Scotland, is made by the Department of Science and Art. Schools under the Commissioners of National Education in Ireland are not eligible to receive this Grant. But 79 Elementary Schools, principally those under the management of the Christian Brothers, received grants amounting to £1,075.

Drawing was made compulsory in England in 1887, when the Grant was taken in the Estimate for the Science and Art Department.

Payments.—The payments and conditions for earning them are set out in Form *229*.*

A payment of 1s., 1s. 6d., and 2s. per scholar in average attendance is made according as the schools receive an award of Fair, Good, or Excellent as the result of the annual inspection. Extra grants are given for ex-standard scholars and pupil teachers for specified subjects beyond those in the Syllabus.

The average payments per scholar earned in 1895 were:—

	s.	d.
England and Wales,	1	8
Scotland,	1	7-6
Ireland,	1	5-6

The minimum grant to a school is 50s.

System.—Drawing is taught throughout the Standards I. to VII. The subjects of instruction in each Standard are detailed in the Syllabus. Briefly they are as follows:—

Standard I.—Drawing on slates or paper—Freehand and with ruler lines, angles, parallels, and the simplest right-lined figures.

Standard II.—Similar, but more difficult work, to be drawn on paper only.

Standard III. (a) Freehand Drawing of regular forms, and of curved and right-lined figures from the flat; (b) Simple geometrical and right-lined figures with the ruler.

Standard IV. (a) Freehand Drawing from the flat; (b) Simple solids and drawing to scale.

Standard V. (a) Freehand Drawing from the flat; (b) Drawing from rectangular and circular models, and from easy common objects; (c) Geometrical figures with instruments and to scale.

Standard VI. (a) Freehand Drawing from the flat; (b) Drawing from models of regular form and from easy common objects; (c) Geometrical Drawing more advanced than Standard V. (not required in Girls' Schools); or (d) Plans and elevations of plane figures and rectangular solids in simple positions.

Standard VII. (a) Freehand Drawing from the flat; (b) Drawing from models more advanced than in VI.; or Drawing any common objects or casts of ornament in light and shade; (c) Geometrical Drawing more advanced than in VI.; or plans, elevations, and sections more advanced than in VI.

A Scheme for instruction in small schools (under 60 in average attendance) is also given, in which the standard instruction is grouped and some of it omitted. An Alternative Syllabus was issued in 1895, giving much greater freedom to the Teachers in selection of subjects, introducing drawing of curves earlier in the course; introducing the use of colours, and tending more towards teaching of design.

The minimum time to be devoted to Drawing is one and a half hours per week.

Inspection and Examination.—The Inspection and Examination is carried out by the Inspectors of the Science and Art Department; as far as possible they make surprise visits to see the general system.

There is an annual inspection, when each scholar executes work in one of the subjects he has been taught, in the presence of the Inspector. The Inspector brings the examples to be drawn with him and arranges the models, &c.

The Inspector sees the teacher give a lesson in the subject.

He also inspects the work done for the last month or so in the school.

He himself gives the award in Standards I. to III on the general work.

The work in Standards IV. to VII. is sent to St. Kensington and judged by a regular set of Examiners. This is done to keep an even standard in the country.

Qualifications of Teachers.—Teachers should be qualified by possessing a D Certificate; the requirements of which are set forth in Form *221*†.

The Subjects that he should pass in to obtain this are—Freehand Drawing, Model Drawing, Drawing in Light and Shade, and Geometry.

This Certificate is not at present insisted on.

* See *Regulations for 1894 of the Science and Art Department*, page 47.
† page 271.

Training of Teachers.—The above-mentioned subjects of Drawing are taught in the Training Colleges, and also Drawing on the black board.

In many counties, the County Councils have instituted Saturday and Evening Classes for Training Teachers. They employ either teachers in the Local Schools of Art, or specially qualified teachers. A good example of such work may be found in Cumberland and Westmorland. The Teachers' fares are paid in some instances to travel to centres.

School Boards have also established similar classes, and Drawing is generally an obligatory subject in the pupil teacher's course.

The teaching of Drawing has been made a special feature in Birmingham. All the Elementary work is under the Head Master of the School of Art, and three Inspectors are employed under him, each of whom has a district which he constantly visits. Classes are established for teachers, and they have the benefit of the Central School of Art.

The Alternative Syllabus has not been generally adopted, but it may be seen in work at two of the London Board Schools.

MANUAL INSTRUCTION IN ELEMENTARY SCHOOLS.

The conditions under which grants are made by the Department of Science and Art for Manual Instruction are set out in Form B2
1*

The instruction must be carried on continuously throughout the school year for two hours weekly (which may include half an hour for the special drawing). It must be in the use of the ordinary tools used in handicrafts in wood or iron.

It must be given out of school hours in a properly fitted workshop, wholly devoted to Manual Instruction, and must be connected with the instruction in Drawing; that is to say, the work must be done from drawings to scale previously made by the scholars.

Payment.—The amount paid is 2d. per scholar per lesson, with an addition of 30 per cent. if the instruction is excellent.

This instruction is limited to scholars who have been placed in the 5th or a higher standard.

This instruction is not obligatory in elementary schools.

The number of schools under instruction was in 1891, 43; in 1892, 169; in 1893, 353; in 1894, 576; in 1895, 910, in England, Wales, Scotland, and Ireland.

The 910 schools in 1895 earned £16,367 10s. in grants, and the number of scholars taught was 67,470.

There are two schools receiving grants from the Department in Ireland, viz. —Glennin, St. Vincent's Orphanage, earned £17 6s.; Liamore Christian Brothers School earned £5 12s. 16d.

The Treasury Minute, dated 5th June, 1890, sanctioned a grant by the Science and Art Department for instruction in the use of the ordinary tools used in *handicrafts in wood or iron*.

STANDARD OF INSTRUCTION.

The Department has not laid down any syllabus for this work, and teachers and organisers have been free to frame their own courses, the only limitations being that of the Treasury Minutes which prescribes the nature of the tools to be used, and the rule that the instruction must be in connection with Drawing, and that the work must be from drawings to scale previously made by the scholars themselves. In consequence many schemes have been formed—a great many organisers and teachers have visited the Continental schools, and methods of Sloyd Carpentry have been introduced, but the knife is not admissible under the rules. I have sent to the Secretary three books showing systems in use in London, Liverpool, and Bolton.

The methods of instruction in Manchester and Birmingham are also worthy of attention.

The course adopted by the London School Boards

aims at the early completion of interesting and elegant models to interest the students, and much work is done in fancy woods.

The course adopted at Liverpool gradually and effectively trains the hands in the use of all tools, and very interesting models are made during the course.

All the courses include instruction in the principles on which tools are made and the general properties of the materials used.

A few extracts from the Introductions and Prefaces will show the aims of the organisers, and their conceptions of the nature of the instruction required.

The following are from the scheme generally adopted by the London School Board. There is also an interesting comparison of the Sloyd Carpentry, and what may be called the English system.

"The aim of education is not, or should not, be the mere accumulation of a knowledge of facts, but primarily a development of the natural mental powers." "The most powerful and necessary inclination of children, to construct, has been left to develop as well as may be without help."

"The close attention on a novel subject is of great service in the development of the boy's mental faculty."

"For the first time, probably, a boy is confronted with the importance of accuracy of measurement." "His knowledge of geometry and mechanics is tested and made of real use, and life and vividness are imparted to these subjects which they entirely lack when taught in the abstract." "It is usually found that the time deducted from the ordinary school hours of boys who are undergoing courses of manual training in no way causes a decreased efficiency in the ordinary subjects. Boys are also found to be more careful and observant, more self-reliant, and certainly are more likely to grow up with a real respect for the dignity of labour."

The following from the course at Bolton. —

"Our training must be an educational one, and we must avoid the too hasty introduction into our schemes of making finished articles."

"Where boys are properly and systematically trained, sufficient interest will be excited and sustained to enable the teacher to impart a vast amount of useful knowledge, and also develop self-reliance, as well as sound judgment."

The following from the Liverpool course. —

"A somewhat large experience . . . has convinced me that after good teachers the main element in the successful working of Manual Instruction Classes is an easy and natural graduation of a series of disciplinary exercises to be worked by every boy."

Fittings, &c.—The courses put in give place of workshops, fittings, tools, &c. In some places the workshop immediately adjoins the schools; in others, centres are established convenient to a certain number of schools. Thus, in Liverpool, there are 16 centres, each accommodates 36 students at once, and during the week a maximum of 720 boys can be taught. In practice, from 350 to 400 are so taught. The cost of a bench to accommodate four boys is £4 to £5; the necessary tools cost £1 per boy.

The above details refer to Manual instruction in wood. Instruction in metal is given in some places on similar lines. Metal-working shops can be seen in Liverpool and Birmingham.

Inspection.—The instructions to Inspectors give a fair idea as to what is looked for. In judging a school, its equipment, methods of instruction, and the work it can produce, are all taken into consideration.

* See Directory (for 1897) of the Science and Art Department, page 79.

PRACTICAL INSTRUCTION IN CHEMISTRY.

This is the only other practical teaching in Primary schools for which grants are made by the Science and Art Department. This instruction must be given in a properly fitted Chemical Laboratory. The payment depends on the success of the student at the May Examinations held by the Department of Science and Art.

The course is that laid down in the Directory of the Science and Art Department, and has recently been modified so as to make it more thoroughly educational, but it pre-supposes a training in scientific method which is frequently wanting.

The Inspectors of the Department visit the Laboratories, and require and advise the teacher as to his method of instruction, and see that the students understand the object of experiments and can carry them out themselves.

The Education Department encourage practical teaching in the Primary schools:—

First, as object lessons and useful occupations. These are class subjects, and are now being made obligatory in Standards I., II., III. They are generally in the form of development of Kindergarten work, and those adopted by the Liverpool School Board, the Birmingham Board and Barrow-in-Furness Board will be dwelt on. [Copies of the courses have been sent to the Secretary.]

Another class subject is a course of Experimental Arithmetic, Measurement, and Physics.

The Education Department also give grants for practical work in Cookery, Laundry work, Dairying, and Cottage Gardening.

Sewing is obligatory for girls in Primary schools.

The course adopted by the Liverpool School Board is entitled "Manual Training," and is intended for use in Standards I., II., III., IV., when it gives way, in the case of boys, to Woodwork, and in that of girls to Cookery and Laundry work.

The course includes instruction in Lath and Band Laying, Paper Folding and Pattern Making, Colour work and Clay Modelling.

The objects aimed at may best be understood from some quotations from the Preface and Introduction:—

"The present scheme is intended to provide a graduated four years' course of practical work for children from seven to eleven years old."

"The exercises involve the use of several different materials, and this is done partly for the value of variety, but more especially that the children may become practically acquainted with the different characters of various substances and the different methods of manipulating them. Whilst there is much to be said in favour of confining the exercises to one particular branch of work, and so bringing it to a considerable degree of development, it is probably wiser in the earlier stages of education to aim at a general all-round development of the powers and faculties."

"The great object attempted being to educate the mind through the medium of the hand and eye, the production of objects and designs of beautiful form and colour, while not altogether omitted, is subordinated to the intelligent and accurate performance of each step in the exercise."

"Experience has shown that the children look forward with delight to these lessons."

"The exercises may be regarded as for the most part applied drawing."

"The exercises are intended to cultivate habits of careful attention and correct observation, to train sight and judgment in the estimation of symmetry and accuracy, and to practice the hand in the manipulation of various materials, so as to give concrete expression to ideas of form or position previously existing in the mind."

"By frequent use of the practical exercises, the geometrical terms will gradually come to have very definite and real meaning to the children. For example—the term 'square' applied to a piece of paper or metal, will become associated in the minds of the children with the idea of surface or area, and not merely be confined to the lines bounding that area."

The system adopted by the Birmingham Board deals more exclusively with one material as each Standard. It is entitled "Hand and Eye" Training.

The objects aimed at are almost similar to those enumerated above, but are obtained in a somewhat different manner, and the lessons are extremely interesting and stimulating.

The system at Barrow-in-Furness may easily be gauged by glancing over the Syllabus for each year.

The next system is the practical carrying out of the suggestions in the Code for a course of Experimental Science (a book of the first part and Syllabus is forwarded); this work is now taken up in Standards V., VI., and VII., in about fifty schools under the London School Board.

The aim and objects may be gathered from the following extracts:—

"The work is based on a scheme drawn up by Professor Armstrong in the Second Report of a Committee of the British Association 'upon the Present Methods' of Teaching Chemistry."

"The plan of the course is based on the assumption that the value to be assigned to Science teaching in Elementary Schools should depend, not so much on the immediate utility of the knowledge imparted to the scholars, as on its educational effect. The aim at this stage should be to teach the youthful scholars the art of helping themselves—and of working exactly and with an object."

"Not one of the least difficulties to be met with in the forwarding of Technical Education lies in the fact that at present so much has to be unlearned before work of any real value can be commenced."

"The method of teaching should be that of suggestion combined with a minimum amount of demonstration."

"Try for yourself—arrange an experiment to find out—should at first be the one answer to all questions."

The course consists almost entirely of practical work in Elementary Science. General principles are learnt from actual experience, and methods of research are taught from the commencement.

Attention has only been drawn to a few of the systems adopted in England, but they may be taken as typical.

I do not propose to touch on the systems of Cookery, Laundry work, &c., as I have not had experience of them.

But there is one more matter worthy of all attention, and that is the system of Physical Drill that may be seen in any good Primary school.

The report of the Third International Congress on Technical Education, held last year at Bordeaux, gives a very good idea of the tendencies of modern Primary education.

I forward copy of Report by Mr. Redgrave, the representative of Great Britain and Ireland. There is one point to which I would draw attention, and that is the Report of M. Rembaert on the "Ecoles Menagères (Household Schools) in Belgium." The following is a brief review:—

There are now 225 of these schools and soon will be 500. At first they were intended to give free instruction to adults, but failed to attract them; they were then put in connection with the Elementary Schools, and adults were charged a fee of four or five francs, and from that out they appear to have been

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most successful. The object of the schools was to give instruction in "Cooking healthy simple food," mending clothing, washing and making up linen, sick nursing. In going amongst the labouring classes M. Bonhôte found the staple nourishment was the potato—never soup—scarcely fresh meat. The idea then was to show that an excellent meal, consisting of soup, vegetables, meat, could be provided for 2d to 2½d per head. The excess for the day is written on a board, the children are given money to go to market and record prices paid on return. The meal is then cooked.

Twenty-four students are under instruction each day in four groups—cooks and cleaners-up, washers, makers up of linen, and sewers or menders of clothes. All expenses are daily kept posted up. When the dinner is ready it is properly served to the 24. Then all is cleared up, and the kitchen and utensils cleaned.

The washers wash the table cloths, dusters, &c.; but this not providing sufficient employment, the children were, after some difficulty, induced to bring their own undertaking.

Similarly for mending and patching, the family clothing was brought into requisition. Finally, the cost of the 216 schools is stated at £4,000, under £50 per school.

I have omitted the payments under the Education Department; they are 1/- and 2/- for class subjects, that is, practical instruction other than the following:

Cookery,	...	a grant of 4/- per scholar.
Laundry work,	...	" " 3/- " "
Dairy work,	...	" " 4/- " "
Costage gardening,	...	" " 2/- or 4/- "

T. B. SHAW.

IV.

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IV.

MEMORANDUM by Mr. STRUTHERS on FORMS OF MANUAL AND PRACTICAL INSTRUCTION IN PRIMARY SCHOOLS, in Supplement of a Report on "Sloyd and Kindergarten Occupations."*

This Report was written in 1895. As stated in the outset of the paper it has reference primarily to the Schools of the Edinburgh district, and on pp 13 and 14 will be found a general statement of the position of Manual Instruction in the Edinburgh Board Schools at the time of the Report.

The progress made since in these Schools may, perhaps, best be estimated by the following excerpts from the Report of the "Committee on School Work" of the Edinburgh Board, published at the beginning of the present year.

"*Kindergarten, Clay-Modelling, and Cardboard Work, &c.*—In all the Infant Departments of the Schools, Kindergarten instruction has again been made a special feature of work, and, where reported on by H.M. Inspectors, has in most instances received very high commendation. In no instance is there any adverse remark. In a considerable number of the Schools this kind of instruction has been continued in the lower standards of the Juvenile Departments. This has in several cases been followed by a course of training in some kind of Manual Work, so as to form an unbroken connection with the instruction in Woodwork given in the upper classes. In addition to the usual Kindergarten occupations, Cardboard-work, Clay-modelling, Brushwork, Basketwork, and Straw and Canes-plaiting, &c., have been practised with considerable success in the Schools, and have been much appreciated by the pupils.

"*Manual Instruction.*—Mr. David Graham, Chief Inspector, states in his report that Woodwork Classes were conducted last Session under the regulations of the Science and Art Department in certain Schools, 12 in all. The work in each of these Schools was examined by Lieut.-Colonel C. Cunningham, R.E., Local Inspector of Drawing and Manual Instruction for Edinburgh and district, who, as heretofore, awarded the 'Excellent' Grant in each instance. Several of these Schools were also visited during the Session by Mr. Robert Blair, M.A., R.S., Inspector, Science and Art Department, who expressed his satisfaction with the manner in which the work was conducted. Several of the Headmasters refer to the effect that these Classes in Woodwork have of retaining pupils at School after their passing the Fifth Standard. In some of the Schools Hand and eye Training is now regularly practised, not only in the Infant Departments, but also in all the Standards until instruction in Woodwork is begun.

"The number of pupils for whom a Grant was received in the eleven Schools inspected during the

last Session was 1,948. The Grant received amounted to £285 15s. The previous Session the number of pupils was 661, and the amount of Grant £229 1s. 10d.

"In order to meet the requirements of Ex-Sixth Standard and Evening School pupils, Mr. Graham has found it necessary to design and publish a Third Year's Course of Models."

Edinburgh Board Schools.

This Report shows—

(1.) A very decided increase in the number of Schools taking Woodwork in the higher standards—12 as against 7 in 1895. To these are to be added four Schools (making 16 in all out of 29 Schools under the Board) in which Woodwork classes were opened last year, although they have not yet been inspected. In all cases, commodious workshops have been provided; the work is under the charge of a very competent Chief Instructor, and in several of the Schools many of the pupils have had a second year's course, and some a third year's course in the subject.

(2.) Kindergarten occupations may be regarded as thoroughly established in the Infant departments of all these schools. Of my own knowledge, I may add that I have found among the Teachers a widening comprehension of the principles on which the work should be conducted and a growing appreciation of its value.

(3.) Less, though appreciable progress, has been made in providing work of this kind for the Classes between Standard I. (which is generally in the Infant department) and Standard V., but in some four or five Schools the continuity of instruction in this subject is unbroken.

Opinions of Teachers.

As to the value of the work, the opinion of the Teachers is practically unanimous. The following are typical opinions of Headmasters, extracted from the same report:—

"Woodwork is extremely popular with the boys, and all cheerfully accept the lengthened day which attendance on this class involves."

"The Manual Training Class is the most popular in the School."

(From a School in the poorest District of the Town).

"The only new feature of the work during the

* Report by J. Struthers, Esq., one of Her Majesty's Inspectors of Schools in Scotland, on Sloyd and Kindergarten occupations in the Elementary School. (Publishers' Paper, C. 7705.)

past Session was the introduction of Manual Training, in which the boys of the 4th and 5th Standards took part. The boys take great delight in the work, and have made very good progress. The interest they take in it leads me to hope that, on leaving School, they will seek to obtain work as apprentice mechanics, instead of going as message-boys and trace-boys."

"We have some kind of hand-and-eye training throughout the whole school, and I am convinced that the children are happier and better, and perform all their School work with greater profit and ease, than when we had little or none of this extra work."

"The Manual Training Class, in my opinion, counteracts to some extent the tendency to leave school at the early age complained of. At the same time, I am now convinced every day of the value, educationally, of this branch of instruction."

"The Woodwork Lessons continue to be highly appreciated by the boys, who are rarely absent when it happens to be their day for this lesson. I believe that some of the boys would have left School sooner but for these lessons."

As a rule, no remark is made on the Kindergarten Work of the Infant Department, for the reason, I take it, that its success is now a well-established fact. For the same reason, no remark is made about Woodwork in some of the Schools where it has been longest established and most successfully taught.

In my own case, further experience confirms the favourable opinion I formerly expressed of the effect of this work on other branches of study. In the Junior Classes it is, I think, demonstrable that, with the increased time given to these occupations, there has been enhanced efficiency in the "Three R's," while the work is distinctly more intelligent. The Woodwork of the Higher Classes comes under the review of the Science and Art Department; but I can say that it has certainly not entailed any loss of efficiency in other subjects in the Schools where it is taken.

Board Schools in large towns.

Of the other large towns I can only speak at second-hand. Leith, I have good reason to believe, rivals Edinburgh in the extent to which Kindergarten occupations are developed in the Junior Classes; and in all the large town Schools these occupations may be taken to be a normal feature of the work of Infants, and frequently of Standard I. So far as I know, Glasgow is the only other large town in which Woodwork has been developed to any extent in Board Schools (see Report of Glasgow Board).

Denominational Schools and Training Colleges.

As is well known, these Schools are comparatively few in Scotland, but they include a most important group—viz., the Practising or normal Schools attached to the Training Colleges. In the three Colleges in Edinburgh the various Kindergarten occupations are well exemplified in the Infant departments, and the female students have a good opportunity of becoming practically acquainted with them. The most advanced forms of Manual Training—e.g., Cardboard Work and Woodwork—are not taught either to students or pupils.

In, I think, all the other Denominational Schools in Edinburgh, Kindergarten occupations are the rule in the Infant Departments, and in some they have been developed to an extent little short of that reached in the Board Schools.

Rural parts of Edinburgh District.

The Edinburgh Inspection District includes, in addition to the City of Edinburgh, about half of the County of Midlothian and the whole of Linlithgow. The district, even in the rural parts, is fairly populous, and the Schools in such centres as Bathgate, Bo'ness,

Broxburn, are very much in the position of City Schools as regards the development of Manual Instruction. In the smaller Schools in the rural districts, where the children come long distances, it is not usual to send them to school till they are over six; and in these Schools I have not thought it expedient to encourage the introduction of Manual occupations for the younger children. I believe that in these Schools a course of Woodwork (or Cardboard Work) for the older boys would be specially valuable and useful, but there is at present a lack of qualified Teachers. Woodwork is taught in one rural School (Kirkcubbin) by the Head-master, who has taken a course at Nais.

Perthshire and Rural Districts generally.

In my present district (Perthshire), where I entered upon work in October last, the great majority of the Schools are of the rural type. So far, I have found that Kindergarten Work is more or less developed in the Schools of large centres such as Perth, Blairgowrie, Auchtermuchty, Alyth, and also sporadically in a few of the rural Schools, where I should scarcely have expected it. Woodwork is systematically taught in one of the Perth Schools, and I have found a beginning made in two rural Schools. This condition of things is, I believe, typical of the other rural districts of Scotland.

Summary.

The position of Manual Instruction in the Day Schools of Scotland may be summarily stated as follows:—It is practically an integral part of the instruction in the Edinburgh Board Schools. Woodwork is also taught to the higher Classes in a considerable number of Schools in Glasgow, and here and there in other places. Kindergarten occupations find a place in the great majority of Schools everywhere in which there is a separate Teacher or Teachers for Infants, or for Infants and Standard I. In the smaller rural Schools any form of Manual Work is of rare occurrence.

It may be of interest to the Commission to know something of the regulations of the Central Department bearing upon this branch of instruction.

Bearing of Code and Regulations of Educational Department on Manual Instruction.

(1) As regards Kindergarten occupations in Infant Departments.—Such occupations are nowhere prescribed as part of the curriculum for Infant Departments, nor is any extra grant allowed on account of them. On the contrary, indeed, it is perfectly understood that the highest grant may be given for excellent work in the "Three R's" alone, nor will additional work of this kind compensate for deficiencies in the fundamental subjects. Their very general introduction is due mainly to enlightened professional opinion among teachers combined with the absence of restrictions on the part of the Department. The utmost freedom is allowed in framing a curriculum for the Infant Departments, and grants are paid not on individual results, but according to the quality of the work done, on the average attendance.

(2) Manual Work in the Higher Standards.—By a change in the Code made in 1895, some form of Manual Educational Work to be taught in connection with Drawing was recognized as a class-subject, for which a payment might be made on the same footing as for English, Geography, History, or Elementary Science. This provision has scarcely, if at all, been taken advantage of. The highest grant for class-subjects may be obtained by the teaching of two subjects only, and it is generally felt that English and Geography have the first claim.

The teaching of elementary science is specially encouraged by a grant of 1s. on the average attendance of boys only, "if the boys are satisfactorily taught Elementary Science according to a scheme

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approved by the Department.* It might be well, I think, to admit Manual Instruction as an alternative for Science under this article. It is extremely difficult to eradicate from Science teaching in the Elementary Schools the prevalent defects of book and memory work, and it does not, I think, under ordinary conditions, afford so good a corrective to the abstractness of the teaching in other subjects. Science teaching, in its best form, and Manual Instruction, aim at developing much the same faculties in the pupils, but individual self-reliant work is more easily secured by the latter. The purpose of the article is to turn to account in the interest of the boys the time devoted to Needlework by the girls, and some form of Manual Training would seem to be the natural correlative.

(3) A grant is made by the Science and Art Department for each pupil taught Woodwork under certain conditions. The classes in Woodwork in Edinburgh, already referred to, are taught under this provision.

Training of Instructors.

In large towns competent instructors in manual work outside of the regular teaching staff are more or less readily available. In country districts this arrangement is barely possible, and if Manual Instruction is to be given in these schools, it must be mainly by the class-teacher. For the more advanced forms of Manual Instruction a considerable amount of training is indispensable, and if the subject is to be generally introduced into rural schools it is probable that some grant from public funds must be made towards the maintenance of training classes. The County Council of Dumfriesshire has made the experiment of employing a teacher of the locality, who has been a most successful student at Nairn, to give instruction in woodwork to his fellow teachers, but I have not heard with what result. Training classes for the minor occupations—day-modelling, brush-work, cardboard-work—have been held from time to time by the Sloyd Association of Scotland, a private Association, whose congresses and exhibitions of work have done much to attract attention to this subject in various parts of Scotland.

Special Woodwork Classes in Dundee.

Before leaving the subject of Manual Instruction, I should like to say that I have heard the evening Manual Instruction classes earned on in Dundee by means of the Burch grant for technical education, spoken of in the very highest terms. These classes are very numerously attended by boys and adults, a large proportion of whom are what are termed "low grade" mill hands, and I am credibly informed that the moral effect upon these pupils has been most marked. The Commissioners may think it expedient to invite Sir James Low, a former Lord Provost, who has greatly interested himself in these classes, to give evidence.

Other forms of "Practical" Instruction.

The other forms of practical instruction which appear to come within the reference to the Commission may be briefly referred to.

Drawing.—This subject is taught in a very large, and I believe, an increasing number of schools, both urban and rural. It is inspected and paid for by the Science and Art Department, and if the information supplied by Captain Shaw does not extend to Scotland, Mr. Robert Blair, one of the chief officers of that Department in Scotland, might be invited to give evidence.

Needlework.—This subject is taught to all girls in Primary Schools in Scotland. It includes "cutting-out" in the higher classes, and opinion is practically unanimous as to the satisfactory character of the work

done. A special grant is made for this subject of 1s. on the average attendance of girls.

Cookery.—The teaching of this subject is practically universal in the schools of the large towns, and it is steadily extending in the country districts. In the Edinburgh Board Schools practically all the girls from the Fourth Standard upwards are instructed in this subject. Many receive two years' and some three years' instruction. From what I have seen of the work, I am clear that, apart from its practical value, it exercises an appreciable influence for good on the bearing and general behaviour of the girls.

A grant of 4s. per pupil is made on certain conditions, and the subject is generally regarded by managers as a paying one.

Laundry work is taught in a few schools in Edinburgh and Glasgow.

Agriculture.—I had little experience of this subject in the Edinburgh district. In my present district it is taught as a rule to 6th and ex-6th boys in Rural schools. The teaching is largely from text-books, but so far as I am bound to say, I have found the work generally intelligent. Some of my colleagues, particularly Mr. Borne, in the Dumfriesshire district, report on this subject in highly favourable terms. I am not aware of the existence of School Farms or School Gardens in any part of Scotland.

Book-keeping.—This subject is frequently taught to 6th and ex-6th classes in town schools. Opinions vary as to its practical value for day-school pupils.

Both these latter subjects are paid for as 'specific subjects' at the rate of 4s. for each pass. They are on the same footing as, for example, Latin, Mathematics, or French.

Evening Schools.

Some five years ago these schools were in a more or less languishing condition, but in recent years they have increased in the most striking manner in number and popularity, and I believe also in influence and usefulness. The development is almost as marked proportionately in country as in town districts. This result is attributable I think to three causes.—(1) The abolition of individual examination which older pupils are disinclined to face. This change followed upon the abolition of payments for individual passes in the day-schools, where also it is unanimously agreed that the change has had a most beneficial effect on the quality and scope of the instruction. (2) The admission of adult pupils. (3) The almost unlimited freedom allowed in the choice of subjects. Many pupils devote their attention to confirming, or reviving, their knowledge of subjects already studied in the day-school, but the most generally popular subjects are such subjects as shorthand, book-keeping, mensuration, dressmaking, cookery, drawing, geography (with lantern), and various forms of elementary science. The great majority of the pupils appear to be animated by a genuine desire to learn some subject which they find is useful to them, and many of the schools are characterized by a quite remarkable spirit of work and enthusiasm. The attendance may be taken to be to a large extent the measure of the success of these Schools, for when a pupil feels that he is making no progress he ceases to attend.

Suggestions.

It is in the proper organization and development of these Schools, and, above all, in the devising of means whereby pupils who leave the Day School on passing the Compulsory Standard may be regularly entered on the work of these Continuation Schools, that I am inclined to believe, has the best hope of providing for the Practical Instruction of the youth of the working classes in subjects likely to be useful to them in their daily avocations. There is grave

danger of overloading the curriculum and deteriorating the quality of the instruction if the attempt is made to introduce into the Day School (for pupils under 12 or 13) any subject on the ground of its probable practical utility, and not of its general educational value.

In this respect I make a strong distinction—for reasons stated in the Report on Sloyd and Kindergarten occupations—between Manual work properly conducted on the one hand, and the various subjects enumerated above, under the head of Evening Schools, on the other.

Meanwhile, till the Evening Continuation Schools and the Day Schools become welded together into one coherent whole, it might be worth while considering whether the apportion should not be given of substituting for the present work of Standard VI. in the Day School a revival of the work of Standard V., with the addition of one or two subjects of practical utility to be studied on Evening School lines.

I have sent the following books to the Secretary:—

1. Report of "School-work Committee" of Edinburgh Board for 1896.
2. Report of Committee on Evening Schools in Edinburgh, 1895-96.
3. Report on "Committee on Teachers and Teaching" of Glasgow Board.
4. Suggestions for the "Teaching of Elementary Science in the Standards," by R. Blair, M.A., B.Sc., Inspector under Science and Art Department.
5. Illustrated Programme of Instruction in Manual Work as taught in the Elementary Schools of Paris.
6. "How they form a series of Sloyd Models at Naas (Sweden)"; an Analysis and Synopsis of the work.
7. "Some Impressions of a Course of Instruction at Naas," by Principal Reichel, Vice-Chancellor of the University of Wales, who took a course at Naas in 1896.

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V.

MEMORANDUM ON MANUAL TRAINING for BOYS in PRIMARY SCHOOLS in FOREIGN COUNTRIES, by M. K. SADLER, Esq., Director of Special Inquiries and Reports to the Committee of Council on Education; with NOTES ON MANUAL TRAINING and ELEMENTARY NATURAL SCIENCE TEACHING in the PRIMARY SCHOOLS and TRAINING COLLEGES in FRANCE, by R. L. MORANT, Esq., Assistant Director of Special Inquiries and Reports.

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INTRODUCTORY NOTE.

1. The movement in favour of introducing manual training into primary schools for boys seems to be gaining strength year by year in all countries. But there is no general agreement as to the precise aim of such training, nor as to the relation which it should bear to the rest of the curriculum. On these points, indeed, there is, if not an actual conflict of principle, at least a great divergence of view.

Some advocates of manual training urge its introduction as a compulsory subject into primary schools on the ground that these schools should definitely prepare boys for the industrial occupations in which the great majority of the scholars are destined to find their livelihood. Others, laying less stress on industrial and economic, than on physiological and psychological arguments, maintain that manual instruction ought to hold an important place in the curriculum as a corrective to book studies, on the ground that the latter tend to a one-sided development of the powers of the child and impair his fitness for many callings in which it is to the interest of the State that his school training should fit him to take an interest and to succeed. The authorities who take this view, support the movement for manual training on more distinctly educational grounds than those mentioned above, but, at the same time, pay more attention to the need of introducing such instruction into the primary schools than into schools of a higher grade. A third party, on the other hand, exclusively relying on educational arguments, regard manual training as a necessary element in all grades of education, but contend that it must, at every point, be closely connected with the curriculum of the given school, and regard any tendency to make manual training a separate and detached element in the school programme as injurious to the unity and educational influence of the course of instruction. These writers pay little or no regard to the industrial bearing of the manual training lessons, but urge that they are, if not more necessary, at least as necessary, in the higher grades of secondary as in primary schools.

2. None of these views are new. Each can appeal in support of its contention to educational writers of high authority in the past.

(i.) The doctrine that the school should not fail to equip its scholars with manual skill which will be of immediate profit to them in finding a livelihood after leaving school, lay behind the movement for establishing schools of industry which spread all over Germany during the last century, and had considerable influence on English education. Wagemann in North Germany, Kundermann in Bohemia, Locke, Bellers, and Dr. Parr in England, all advocated "working schools," or schools of industry, in which manual labour was to be a prominent feature in the curriculum. They argued that such schools would increase the economic welfare of the lower orders and accustom the poorer class of children to habits of industry and hard work. Indeed, the latter contention was repeatedly urged as an answer to the argument that schooling would make the working classes discontented and dangerous.

The same point of view is taken in Pestalozzi's "Appeal to provide education and work for the poor country children" (1776-7), and in his "Leonard and Gertrude" (1781). The Schools of Industry, however, failed, because they aimed at a premature form of technical education, and in their zeal for manual training neglected the educative side of the primary school. But about 1873 the industrial and economic argument for manual instruction in primary schools reappeared in Denmark and Germany, and a few years later, in France. It was feared that the school curriculum had become too literary and was turning out clerks rather than artisans. As a corrective to this tendency, it was proposed by many writers (especially by Herr Clausen-Kaas, a Danish officer) to establish manual training classes for boys in primary schools—such a change being justified on the practical ground that school training should be so arranged as to fit boys for the industrial and agricultural occupations which were the natural calling of their class.

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Among the reasons which led to the revival of this view was the fact that the development of machinery and the spread of the factory system had curtailed home industries, and led thus deprived large numbers of children of natural opportunities of learning how to use their hands in the various occupations which were practised in the home. Town life, again, had become more general, and children brought up in great cities were naturally less accustomed to acquire handicrafts and manual dexterity than those whose home was in the country and who, therefore, were required to help their parents from an early age, in the more varied duties of rural life. Moreover, there was a widely spread feeling in Germany and Denmark that the economic welfare of the population in the two countries demanded greater dexterity in handicrafts and trained aptitude for industrial pursuits. Similar thoughts were widely current in other countries, and the result has been that the movement, which, on the one side, has promoted the technical instruction of adults, has, on the other, pressed for the inclusion of a preparatory form of technical teaching in the curriculum of elementary schools. This aspect of the movement for manual training is, therefore, chiefly social and economic, and is apt to come into conflict with educational theory and practice.

(i) The second view, viz. —That manual training should be given a sufficient, though possibly, an independent, place in the curriculum, as a corrective to book work and to the more exclusive exercise of the verbal memory, is found in the writings of Comenius, Locke, Francke, Senler, Rousseau, and Bascom. Various forms of manual exercises, e.g., turnery, cardboard-work and glass-work, were introduced into Francke's *Pädagogium*, established at Halle in 1696, into the early *Realschulen* of the 18th century and into the schools of Bascom and Salzmann at Dessau and Schulpfortel. From that time down to the present, the claims of manual training to form part of the curriculum of all schools appear to have been urged by an increasing number of teachers and representative authorities on educational science. Fichte insisted on the necessary connection between learning and working, and Pestalozzi in his later books, laid great stress on the educative value of manual training, and modified, if he did not actually abandon, his earlier schemes for industrial education. But this side of Pestalozzi's teaching received comparatively little attention, at least so far as the curriculum of the elementary school was concerned. The explanation of this curious fact may probably be found in the desire of educational reformers to lay stress on the educative influence of the primary school and to say nothing which might seem to encourage the public to look with favour on the narrower ideal of the industrial school. In the sphere of primary education manual training had become identified with the premature technical instruction attempted in the schools of industry. Pestalozzi's followers therefore did not press forward their master's view that manual training and other forms of teaching should be combined together. The result was that the primary school, though owing the greater part of its immense improvement to the influence of Pestalozzi and his followers, gradually became too literary in its curriculum, and the last thirty years have seen increasing efforts to repair defects which would never have become serious had Pestalozzi's doctrine been adopted and applied in its entirety.

So far as the higher grades of education were concerned, the old classical and literary tradition showed itself more impervious to criticism. As the demand rose for a higher standard of classical attainment the time available for other studies became more limited. In England increasing attention to games and physical exercises partly met the claims of those who desired a corrective to book work. And the rapid development of scientific teaching provided another safety-valve for such discontent as was felt with the normal

curriculum. But about twenty years ago the movement for manual training began to show itself in a somewhat extreme form in the United States, and an active agitation was set on foot in favour of a searching reform of secondary education and of the establishment of a new type of school in which manual employments should form the chief, though by no means the only, feature of the curriculum.

Though occasionally extravagant in its demands, and sometimes ignorantly contemptuous of the educational value of the normal curriculum, this movement in favour of manual training has undoubtedly been beneficial in its general influence. It is socially significant as indicating a desire to secure more of a common basis of experience for the future brain workers and hand workers alike. It is helping to raise manual skill and practical dexterity to their proper place of honour in the minds of the scholars, and is counteracting false notions of the superiority of merely clerical work, however mechanical, to the skilled practice of a craft. It has secured a place in the curriculum for a form of training which is indispensable to complete education. But the weakness of the movement has been that it has generally failed to bring the manual lessons into real connection with the rest of the curriculum. This failure has often been due to the inability of the regular teachers on the staff to give manual training. Skilled artisans or outside specialists have in such cases been necessarily employed for the purpose, with the frequent result that the course of manual instruction has been kept too separate from the other lessons and has not been so planned as to fit in with the rest of the teaching and to intensify its influence.

(ii) As correcting this tendency to treat manual training as if it were no organic part of the curriculum, but merely a separate, though necessary, appendix to it, the writings of the Herbartians are specially noteworthy. And, so far as it goes, the influence of the Froebelian movement has been in the same direction. But the views of the two schools as to the place of manual training in education are far from being identical. As Herr Rissmann points out, Froebel and Herbart both insist on the necessary connection between hand work and other lessons in the school. But, according to Froebel, hand-training is the foundation which must precede all formal training of the understanding. According to the school of Herbart, on the other hand, formal instruction of other kinds is the matter of chief concern, while hand-training, though it should be intimately connected with the rest of the curriculum, is to be treated as a means of applying what has been otherwise learned. And this difference of opinion is a fundamental one, though the two views have not yet often come into conflict, owing to the fact that the Froebelian movement has chiefly influenced the schools for very young children, while the Herbartian has hitherto, for the most part, affected the curriculum of secondary schools or of higher classes in elementary schools. There are many signs, however, that the Herbartian doctrines have spread widely among those concerned with the earliest stages of education, and that a conflict of principles which will affect the whole work of the kindergarten has already begun.

The Froebelian and Herbartian movements are, however, at one in insisting that manual training must be organically connected with the whole curriculum and discipline of the school, and should, therefore, be given, not by an outside instructor, but by the teachers on the regular staff. Just as strong educational arguments are urged against any proposal to take the religious lesson out of the hands of the regular teacher, and to entrust it to some one coming in for that express purpose from the outside, so is there a vigorous movement against the still common practice of treating manual training as a separable item which can be dealt with by a special teacher without injury to the unity of the curriculum. It is contended that manual training ought to be connected with

every phase of the school's work, and in no way relegated to a separate and inferior place in the programme.

But how to secure this intimacy of educational conception is still the subject of discussion and enquiry even among the Herbartians writers who agree as to the principle. Herbart himself did not work the matter out in detail, though he left no doubt as to his opinion on the matter of principle. Thus, in his "Sketch of educational lectures," he wrote: "Everybody ought to learn to use his hands. After speech, the hand has the place of honour as distinguishing man from beast. There should be manual training classes connected with elementary schools, but these have no business to be trade schools directly preparing boys for industry." Among Herbart's followers Zeller, Barth, and Willmann elucidated the theory of manual instruction, while among recent writers of the same school of educational thought Dr. O. W. Meyer and Professor Rein have both set out detailed schemes for the application of the Herbartian principles to manual training. Dr. Meyer, in his article on *Handarbeit der Kinder* in Professor Rein's *Encyclopädisches Handbuch der Pädagogik* (vol. iv., pages 249 to 279), has sketched an elaborate plan for connecting manual training with the various subjects and stages of school life. And the report of Rektor Scholz, in the proceedings of Dr. Rein's Educational Seminar at Jena, in 1889-90 (*Aus den pädagogischen Versammlungen Seminars zu Jena. Dritte Heft; Leipzig, 1891*), contains a careful discussion of the principles on which manual training may be associated with various subjects in the curriculum, especially with history, literature, and the teaching of the taste.

3.—One practical result of the conflict of principle as to the proper place of manual training in the school curriculum is that, all over the world, a great variety of experiments are being made as to the educational value and possible applications of this form of teaching. And there are signs everywhere of hesitation and apprehension, not as to the usefulness of manual training in itself, but as to its bearing on the rest of the school work. It is generally agreed, however, that manual training is not for primary schools only, but that it has a proper place in every grade of formative education; and there is a growing conviction that, so far as possible, the manual training ought to be imparted by the regular teachers on the staff.

It is felt that the kind of manual instruction to be given must depend on the age of the children, and that scholars under eleven or twelve years of age are

not really strong enough for effective carpentry. This points towards much simpler forms of manual teaching for younger children—cardboard work, clay modelling, cutting out, brush work, &c. And it is clear that these forms of manual training, while educationally of the highest value, have the additional advantages of involving no costly installation, as well as of being capable of being directly associated with historical and literary teaching. In the manual training of children of different ages greater stress would naturally be laid on some subjects for country schools and on others for town schools. For the former, gardening is strongly advocated by many writers whose views are based on experience. Gardening also is suitable for both girls and boys, and thus is one of the means of bridging over the gap which at present separates much of the manual training provided for the two sexes. Manual instruction for girls has always been admitted more readily into school curricula than manual instruction for boys, as it is obviously to the advantage both of a girl and of her family that she should be skilful in domestic economy and needlework. But this aspect of the matter has caused the manual training of girls to be regarded almost exclusively from a utilitarian standpoint, and it is only within recent years that there has been a strong movement in favour of making these lessons also more strictly educational, i.e. closely connected with the rest of the curriculum.

The hygienic value of the different forms of manual training is discussed in an article by Herr Jenke, in the third volume of Dr. Rein's *Encyclopädisches Handbuch der Pädagogik*.

It is evidently felt in all countries that the future of the manual training movement largely turns on the proper preparation of the teachers. There is therefore a growing tendency to give lessons in manual training in Normal Colleges. If the regular teacher is himself able to give simple but sufficient manual instruction, and if the course be chosen with a view to economy in tools and material and adapted to the age of the scholars, to the nature of the curriculum, and to the needs of the district in which the school is situated, there seems no reason why manual training should not be introduced without serious trouble or expense into the programme of every grade of school in town and country.

[On the general question of manual training for boys and girls, reference may be made to the valuable articles in the third volume of Professor Rein's "Encyclopädisches Handbuch der Pädagogik."]

MANUAL TRAINING FOR BOYS IN PRIMARY SCHOOLS IN FOREIGN COUNTRIES.*

1.—FINLAND.

Finland was the first country to make manual training for boys a necessary part of the curriculum of the primary school. That it did so was in a great measure due to the influence of Uno Cygnaeus (1810-1886), who drew up the project for the reorganization of the Finnish National Schools, which was carried into effect during the years 1858-1866. Cygnaeus laid great stress on the educative importance of manual work, basing his view on the principles of Pestalozzi, and, to some extent, on those of Froebel.

In 1866, manual training was made a compulsory subject in the training colleges for elementary school teachers, and in all primary schools in the country districts of Finland. It has also been introduced into most of the town schools. The training colleges give instruction in carpentry, wood-carving, basket-work, the work, and iron-work. The traveller through Finland sees at once why wood-work in its various forms has become the staple subject of manual instruction.

Great districts of the country are covered with pine forest, the scattered and lonely farm-houses being built and furnished from timber felled on the spot. Along the coast and the rivers a considerable part of the population is directly or indirectly connected with forestry and the timber trade. Under such conditions, skill in working wood is at once the most necessary and the most easily acquired of all forms of manual dexterity. But in the Finnish school programmes the stress is laid on the educational discipline gained from manual training, not on the economic advantage to be derived from the early acquisition of technical skill. Therefore, manual instruction is given by the regular teachers as part of the ordinary school work. Only in this way, it is felt, can manual training be woven in as an integral part of the educational scheme of the school. The training colleges are, therefore, specially equipped with workshops and manual instructors, in order to prepare the young teachers to superintend the hand training in their future schools.

* This account of the present condition of manual training in Scandinavia, Germany, and Switzerland, is largely based on the admirable article by Rektor Reinmann on *Handarbeitunterricht der Kinder* in Professor Rein's *Encyclopädisches Handbuch der Pädagogik*, vol. iv. pp. 249-279.

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Such training in the village schools in the forest districts naturally takes the form of *Sloyd*. Manual instruction is thus organised in the smaller Finnish schools with due regard at once to economy and to educational principles. It should be added that the Finnish primary schools aim at providing elementary education for all classes of the people; and that therefore the importance assigned to manual training is not solely due to a desire to influence the scholars in their choice of a calling. Obviously, the great majority of boys in elementary schools must become labourers or artisans, and will, therefore, find a trained hand and eye useful at every turn in their daily life. But the reason which chiefly determined the Finnish authorities to make manual training a compulsory subject in primary schools was the conviction that no curriculum which omits the educative training of the hand and eye can furnish the well-balanced discipline necessary to the harmonious development of the various faculties of the child.

3.—NORWAY.

The establishment of *Sloyd* schools was permitted in Norway by the law of 1860, which regulated the primary schools in country districts. The manual training movement became stronger during the years of 1870-1880, but specially aimed at imparting a knowledge of domestic economy. In recent years more attention has been given to the connection between manual training and the other parts of the school programme. Since 1891, *Sloyd* has been a compulsory subject in all training colleges, and in town primary schools. In country schools it is optional.

3.—SWEDEN.

In its origin the movement for manual training in Sweden was partly an organized endeavour to re-associate the old tradition of domestic industry. The first *Sloyd* schools for young people were established in 1870. Fortunately the experience of Finland led the Swedish authorities to encourage the strictly educational side of *Sloyd* work, and to connect it with the elementary school curriculum. The ordinance of September 11, 1877, formally recognized this movement in educational opinion by declaring that the object of *Sloyd* work is not to impart technical dexterity in any particular trade, but the attainment of general handiness and skill in the use of the tools most commonly in use.

A land owner, Herr Abrahamson, rendered most valuable service to the movement for manual training in Sweden by establishing, in 1875, the well-known Seminar at Näs. The work of this training school, which has in recent years been under the direction of Herr Otto Salomon, has been one of the most important agencies in disseminating throughout Northern Europe a knowledge of the theory and practice of educational wood-work. It is stated that 3,400 manual instructors (including 600 foreign) had been trained at Näs down to 1896.

Herr Rosenman reports that manual instruction is given in 2,000 Swedish schools and in all the seven training colleges in the country. In 1894 the contribution of the State towards this branch of educational work amounted to 141 666 kronors (47,968 3s.)

4.—DENMARK.

Manual training in Denmark was, for many years, promoted with a special view to domestic economy. A well-known officer, Von Clausen Knas, devoted himself to the work, and with the co-operation of a teacher, Herr Ben, established, in 1873, the Danish Society for Domestic Economy (*Husholdningsklub*). The instruction provided by this Society was given in the primary schools, but by separate teachers, and was in no organic connection with the school curriculum. Basket-work, brush-making, wood carving, straw-plaiting and binding, were all taught in these classes. The Government made an annual grant in aid of the work of the Society, but this latter was not regarded

as official. Some land owners established classes on their estates. A certain number of communes undertook to provide manual instruction for girls, but only on condition that the State bore half the expense. Herr von Clausen Knas sought to persuade the Government to introduce manual instruction into the training colleges for elementary school teachers, but the directors of three out of the four institutions declared themselves strongly against the innovation, and the fourth, though willing to admit manual training as an optional subject, estimated the cost of introducing it into his college at so high a figure that the Government declined to make the experiment. A Prussian Commission, reporting in 1890, gave a somewhat discouraging account of the manual training movement in Denmark, and expressed itself doubtful as to its permanence. But in 1893 new life was given to it by the labours of Herr Mikkelsen, who established a *Sloyd* school with a view to re-organizing the manual training in the Danish schools on more distinctly educational principles. The Danish *Sloyd* Association was founded in 1895. Since 1899 the State contribution has amounted to about £900 a year.

5.—HOLLAND.

The rules for training colleges, published in 1891 provide that, in each college for masters instruction shall be given in manual work (*landbouwsch, Sloyd*), and in each college for mistresses, in plain and decorative needlework. There are also courses to enable other teachers to acquire skill in giving manual instruction.

6.—BELGIUM.

Avoiding themselves of the provision of the law of 1884, many communes have introduced manual training into the curriculum of the primary schools for boys, but the subject is not obligatory. Instruction in manual training is given in many of the normal colleges.

7.—AUSTRIA.

Instruction in manual training is now given in seven normal colleges. A ministerial order of 1883 allowed manual instruction to be given as an optional subject in the *Burgerschulen* for boys. In 1893 there were reported to be in Austria 267 workshops for manual training. Since that time this number is said to have increased. There is a specially interesting movement in Vienna, under the leadership of Herr Benhas, who aims at bringing manual training into close connection with the other part of the school curriculum. His system of teaching has been adopted in six manual training schools in Vienna, under the direction of the Verein für *Krafterhebenarbeit* in Österreich. There are also holiday training courses for teachers in connection with these schools.

8.—HUNGARY.

About twenty years ago there was a strong movement in Hungary for manual training in elementary schools with the specific object of encouraging domestic industries. But the experiment was not attended with much success, and although tried in numerous training colleges and elementary schools, was practically abandoned. Recently the movement has been revived in some districts, while in a few of the larger towns, including Buda-Pesth, a more strictly educational form of manual training is finding more favour. *Sloyd* on the Näs system is taught in two training colleges in Croatia.

9.—GERMANY.

The movement in Germany for manual training, on a strictly educational line, is becoming a strong one.

The following tables, which were published in the *Bilder für Kräfte-Handarbeit* for November, 1894, give a statistical summary of the number and kind of manual training schools and classes in the different parts of Germany.

I.—The Number and Kinds of MANUAL TRAINING SCHOOLS and CLASSES in the different parts of GERMANY

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STATE OR PROVINCE.	Total No. of Institutions.	Independent Schools.	Elementary Schools.	Manual Schools.	Gymnasium and Real Schools.	Technical Schools, irrespective of Training Colleges.	Art and Craft Schools.	Industrial Institutions.	Orphanages.	Deaf and Dumb Schools.	Schools for Blind.	Schools for weak-minded.	Reformatories.	Classes for blind Children.	Institutions for Confirmation Candidates.	Continuation Schools.	Domestic Economy Schools.	Courses for Teachers.	
																		Native Teachers.	Foreigners.
Baden.	20	6	-	-	-	-	-	1	-	2	2	1	-	2	-	-	-	-	-
Bavaria.	63	23	6	-	2	-	2	7	1	1	2	2	1	2	-	-	-	2	1
Württemberg.	51	2	1	-	-	1	-	1	-	2	-	-	-	1	1	-	-	-	-
Prussia.	16	4	4	-	2	2	-	2	-	-	-	-	-	2	-	-	-	-	-
Rhine.	26	2	2	-	-	2	-	2	-	-	-	-	-	-	-	-	-	2	2
East-Prussia.	20	2	2	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	2*
Mecklenburg.	3	-	-	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-
East-Prussia.	5	2	1	-	-	1	-	1	-	2	-	-	-	-	-	-	-	-	-
East-Prussia.	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
East-Prussia.	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
East-Prussia.	11	4	1	-	-	1	-	1	-	-	-	2	1	2	-	-	-	1	-
East-Prussia.	3	1	1	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
East-Prussia.	4	2	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-
East-Prussia.	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
East-Prussia.	2	-	-	-	-	-	-	-	-	1	-	-	-	2	-	-	-	-	-
East-Prussia.	2	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
East-Prussia.	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
East-Prussia.	4	-	1	-	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
East-Prussia.	4	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
East-Prussia.	6	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
East-Prussia.	5	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
East-Prussia.	5	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
East-Prussia.	7	2	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-
East-Prussia.	7	2	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-
East-Prussia.	9	6	1	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Prussia.	302	108	10	2	7	3	12	14	5	10	5	5	3	20	1	-	-	6	2
Germany.	402	158	109	2	2	1	6	9	23	13	6	7	6	-	-	2	1	25	4
Germany.	606	224	122	2	12	4	21	23	24	23	16	9	9	69	1	2	1	77	7

* One School for Blind and Deaf and Dumb.

II.—The Number and Kinds of MANUAL TRAINING SCHOOLS and CLASSES in PRUSSIA.

STATE OR PROVINCE.	Total No. of Institutions.	Independent Schools.	Elementary Schools.	Technical Schools.	Gymnasium and Real Schools.	Training Colleges.	Industrial Institutions.	Orphanages.	Deaf and Dumb Schools.	Blind Schools.	Special Schools.	Reformatories.	Classes for blind Children.	Institutions for Confirmation Candidates.	Continuation Schools.	Domestic Economy Schools.	Institutions, irrespective of Training Colleges.	Courses for Teachers.	
																		Native Teachers.	Foreigners.
East-Prussia.	17	5	3	-	-	2	2	2	4	-	-	-	-	-	-	-	-	-	1
West-Prussia.	22	7	6	-	-	2	2	4	-	2	-	-	1	-	-	-	-	2	-
Brandenburg.	13	4	2	-	-	-	2	2	-	1	-	-	-	-	-	-	-	-	-
Berlin.	18	2	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	1	-
Pomerania.	3	2	-	-	1	-	-	-	2	-	-	-	1	-	-	-	-	-	-
Posen.	23	26	27	-	-	1	-	1	1	1	-	-	-	-	-	-	-	-	2
Saxony.	44	12	5	-	-	2	2	2	2	1	-	-	13	-	-	-	-	1	-
Silesia.	30	5	17	-	-	-	-	-	1	1	-	-	2	-	-	1	-	1	-
East-Prussia.	20	12	4	-	-	5	1	1	4	1	-	-	3	-	1	-	-	-	-
East-Prussia.	24	5	11	-	3	-	-	-	1	1	-	-	2	-	-	-	-	1	-
East-Prussia.	29	9	2	-	-	1	1	-	2	2	-	-	-	-	-	-	-	-	-
East-Prussia.	24	12	12	1	1	1	2	2	2	2	2	2	10	-	1	-	-	2	1
Silesia.	67	30	25	-	-	1	1	2	2	-	-	-	1	-	-	-	-	2	1
Germany.	402	158	109	1	2	14	2	23	19	11	2	2	66	-	2	1	1	12	7

III.—SUMMARY of the various branches of INSTRUCTION given in the MANUAL TRAINING SCHOOLS and CLASSES in GERMANY.

<p>I. Schools teaching only one branch. 128</p> <p>81 Cardboard-work. 9 Wood-work. 38 Wood-carving.</p>	<p>V. Schools giving instruction in few branches. 5</p> <p>3 Cardboard-work, wood-work, wood-carving, turning, metal-work. 1 Cardboard-work, wood-work, wood-carving, clay-modelling, metal-work. 1 Cardboard-work, wood-work, wood-carving, turning, clay-modelling.</p>
<p>II. Schools giving instruction in two branches. 186</p> <p>112 Cardboard-work and wood-carving. 32 Cardboard-work and wood-work. 36 Wood-work and wood-carving. 5 Wood-work and metal-work. 1 Preparatory course and papier maché. 1 Preparatory course and wood-carving. 1 Cardboard-work and metal-work.</p>	<p>Five Schools gave instruction in six branches. 463 Schools taught cardboard-work (in some, in connection with simple book-binding). 383 Schools taught wood-carving (242 directly or indirectly connected with wood-work). 300 Schools taught wood-work. 43 Schools taught metal-work. 14 Schools taught turning. 13 Schools taught clay-modelling. 6 Schools taught fretwork-work. 6 Schools taught basket-work.</p>
<p>III. Schools giving instruction in three branches. 173</p> <p>149 Cardboard-work, wood-work, and wood-carving. 17 Cardboard-work, wood-work, and metal-work. 2 Cardboard-work, wood-carving, and metal-work. 5 Cardboard-work, wood-work, and clay-modelling. 2 Preparatory course, wood-work, and clay-modelling. 1 Preparatory course, wood-work, and papier maché. 1 Preparatory course, wood-work, and fretwork-work. 1 Cardboard-work, wood-work, and fretwork-work. 1 Cardboard-work, wood-work, and basket-work. 1 Wood-work, wood-carving, and turning.</p>	<p>In the Prussian educational estimates for 1896, the sum of 10,000 marks is set aside for manual training and instruction in domestic economy. The Governments of the Kingdoms of Saxony, of Baden, and of Anhalt, each make a State contribution towards the expenses of manual training in schools. Manual training had been adopted in 1896 as part of the curriculum of 23 training colleges in Germany. But the most powerful impulse towards the more educational side of manual training in German schools has come from the German Association for Manual Training for Boys (<i>Verrein für Knaben-Handarbeit</i>). A great number of the best handicraft teachers in Germany have been trained in the Training College which this Association has established at Leipzig under the directorship of Dr. Goettar. The latter has borne a leading part in the recent revival of manual training classes throughout Germany, and the training college under his supervision has been open to and largely attended by foreign students.* Holiday courses are given in Leipzig, and afforded an opportunity by which handicraft teachers may increase their skill and extend their qualifications.</p>
<p>IV. Schools giving instruction in four branches. 45</p> <p>17 Preparatory course, cardboard-work, wood-work, and wood-carving. 18 Metal-work, cardboard-work, wood-work, and wood-carving. 3 Basket-work, cardboard-work, wood-work, and wood-carving. 2 Clay-modelling, cardboard-work, wood-work, and wood-carving. 2 Turning, cardboard-work, wood-work, and wood-carving. 1 Glass-work, cardboard-work, wood-work, and wood-carving. 1 Net-work, cardboard-work, wood-work, and wood-carving. 1 Turning, cardboard-work, wood-work, and basket-work.</p>	<p>The German Association for Manual Training lays great stress on the need of providing suitable forms of manual instruction for town and country schools, of connecting the manual training courses with the school curriculum (especially in the way of giving boys the opportunity of applying what they have learned in school), and of paying regard, not to the objects actually produced in the courses, but to the educative value of the process of producing them.</p> <p>There is a lively discussion now going on in Germany as to the principles on which manual instruction should be organised. The older view was that this branch of teaching need have no organic connection with the rest of the curriculum. This opinion is still represented, but appears to be giving way before that which asserts that manual training should have its own independent course, but that its subject-matter should be so arranged as to afford opportunities for applying the more theoretical knowledge acquired in the other classes. A third school of writers, largely Herbartians, goes much further than this and urges that manual training should form an essential part of the curriculum of all grades of school and be connected at every point with the plan of lessons in other subjects. An elaborate scheme for such application of manual</p>

* Dr. Goetze was formerly a teacher in a secondary school, and his labours on behalf of manual training were originally due to a conviction that the curriculum of the Gymnasiums (middle secondary schools) specially needed a corrective to book-work, and up to the present, Dr. Goetze's efforts seem to have borne fruit for the most part in the sphere of primary education.

training will be found in an article by Dr. Otto Beyer, of Leipzig, on *Handarbeit der Knaben*, in Professor Rein's *Pädagogisches Handbuch der Pädagogik*, vol. iii, pp. 248-379. The way in which manual instruction was introduced into the Gymnasial-class of the Jena University *Erziehungsseminar* is described in Rektor Scholz's Bericht über die Thätigkeit des Pädag. Seminars, in "Aus dem pädagogischen Universitäts-Seminar zu Jena, III. Heft, 1891."

10.—SWITZERLAND.

The movement began in 1883 when a workshop for manual instruction was established at Basel by a non-official association established with this object. In 1893 the number of manual training schools in Switzerland had risen to 76, many of these, however, providing a variety of distinct courses of instruction under common management. For example, that which is reckoned as a single school at Zürich embraced 17 separate courses, that at Basel 43, and that at Bern 32. The following table shows the grade of institution to which the manual training schools were severally attached:—

Institutions with which the Manual Training Schools were connected (1893)	
Training Colleges for Teachers,	6
Higher Primary Schools and Realcolleges,	3
Primary Schools,	26
Number of Independent Manual Training Schools,	61
Total,	76
Number of Scholars in attendance, about 7,000	

These statistics do not include manual training classes in connection with private schools or schools for little children.

The manual instruction is given in the Canton of Geneva exclusively, and in other Cantons predominantly, by teachers who have gone through the regular course of educational preparation in training colleges.

Only a few of the Cantons make this course obligatory in training colleges. But annual courses for teachers are given at various centres by the Swiss Manual Training Union and these are attended by about one hundred teachers. The Union gives a diploma for teachers after an examination both in theory and practice.

The ordinary courses of manual training include paper and card-board work, pottery, carving, and occasionally clay modelling, turnery, and metal work. But in some Cantons there is no systematic programme, and the work partakes more of the nature of interesting occupations for lads possessing a strong taste for manual work. About two-thirds of the expense is borne by the cantonal and cantonal funds. The Federal Government pays for the instruction given in these subjects in the training colleges.

Manual training was encouraged in the public schools of the Canton of Geneva by the law of 1884, subject to the approval of the educational adviser, and this Canton has so developed its manual instruction that nearly half of the total number of pupils receiving this form of teaching in the whole of Switzerland are returned from the Canton of Geneva. Manual training was made a compulsory subject in the primary schools of the Canton Vaud by the law of 1883. In the same year the Canton Neuchâtel

guaranteed aid from Cantonal funds to those local authorities which introduced the subject into their primary schools. In the Canton of Bern the law of 1884 provided a grant from central funds in aid of those primary schools in which manual training was made a compulsory subject. But there are still some six out of the twenty-five Cantons of Switzerland which make no arrangements for it. In 1891 it was officially estimated that only about 3 per cent. of the primary and higher primary school population received manual instruction; and if Geneva were excluded the figure would have been 1·7 per cent., while the average of the number of hours spent on it per scholar per annum, excluding Geneva, counting scholars between ten and fifteen years of age, was only 23, and this, in spite of the fact that in Basel, St. Gallen, and Thurgau it was 84. The whole question was most discussed in two successive conferences in 1894 and 1895, and there is a strong movement to increase the provision for this branch of education.

11.—FRANCE.*

Previous to definite State recognition, various efforts had been made to introduce manual instruction into the primary schools, especially by the City of Paris. A special Commission, which was appointed by the Municipality of Paris in 1863, reported that manual training should form an essential part in the elementary school programme, but that it should not be a trade apprenticeship, but simply "those elementary exercises of which everyone ought to be capable, whatever his social condition, which are the basis of all trades and suffice to develop manual dexterity, and require neither large outlay in tools, nor considerable space."

This pronouncement endeavoured to hold out the purely educative side of manual training as its sole object, and as a need common to all social classes.

But the fact that manual training has never been adopted in secondary schools in France, taken together with the particular arguments now invariably used for urging the importance of manual training, shows that it is really as a preliminary to the life of manual labour, and not as an educative training for all the faculties, that this subject has won its present recognition in France.

It was in 1882 that it was first made an obligatory subject by Act of Parliament, under the title of "Travaux manuels et usage des principaux outils."

M. Paul Bert, however, in moving the Bill, clearly showed that he still held to the educative intention of this subject, and illustrated one of the points still often contested, viz., the correlation of manual exercises with the rest of the curriculum. He said, "We do not seek to make the Primary School a professional school . . . we think that scientific instruction ought not to remain in the domain of pure theory, that its practical applications to diverse industries ought to find a great place in it."

This intention, in its strict sense, is manifestly only possible in elementary schools as regards the older scholars, but the speaker had, doubtless, also in view the curriculum of the Higher Primary Schools, whose scholars are from twelve to sixteen years of age, and which have become very professional in character.

This idea of the correlation with other parts of the curriculum is so frequently emphasized that it may be well to give programmes issued by the Education Department for Drawing and for Geometry in the elementary schools, parallel with the Syllabus for Manual Instruction. It should be noted that, while girls follow the same programme as boys in drawing and geometry, yet in *travaux manuels* they have an entirely different course, confined to sewing, knitting, domestic economy, etc., etc.

* This account of the arrangements in France (with appendix on page 54) has been prepared by my colleague, Mr. H. L. Mallet, Assistant Director of Special Inquiries. — H. L. M.

ANNEXE A.

V.

	THIRTEEN MANUAL (For Boys)	DRAWING	STITCHING
INFANT STANDARDS— 5 to 7 years.	First exercises in painting, coloring, and writing. Paper folding. First basket-ry. Work with wools and other designs in colors.	Construction of lines. Representation of these lines, on the scale or on paper in pencil or colored media. Little original designs given by the masters. Recognition of the simplest common objects.	—
ELEMENTARY STANDARDS— 8 to 9 years.	Simple exercises for developing dexterity of hand. Drawing and in colored solid geometrical forms. Basket-ry—cup, various various colors. Modeling—representation of geometrical solids and very simple objects.	Drawing straight lines, and their division into equal parts. Evaluation of the inclination of one line to another. First principles of descriptive drawing. On circles, regular polygons, stars.	Simple exercises for recognizing and designing the most elementary regular figures—square, rectangle, triangle, and circle. Different kinds of angles. Idea of three dimensions. Notion of solids by means of relief models.
MIDDLE STANDARDS— 10 to 11 years.	Construction of objects out of paper-board, covered with colored paper. Little exercises in iron wire. Basket-ry—completion of iron-ry and wood. Claps. Modeling—simple architectural ornaments.	Freehand Drawing—Usual geometrical figures—square, circle, ellipse, curves borrowed from the vegetable kingdom—stems, leaves, flowers. Copied work representing descriptive figures in low relief. Geometric and also perspective sketch of geometrical forms and simple objects, followed by the addition of shadows. Geometrical Drawing—The two of perspective in drawing straight lines and circles. First, common square perspective, limited to making the school understand the use of these instruments, the actual representation of them being acquired in the next standard.	To study and to represent gradually on the board the forms of plane geometry and their simplest combinations. Practical notions on the cube, prism, cylinder, sphere, and their fundamental characteristics. Applications to the native system.
WORKS STANDARDS— 12 to 15 years.	Continued exercises in drawing and modeling. Outline sketches of objects to be afterwards made, and the construction of these objects according to the sketches. Study of the principal tools employed in woodwork. Graduated practical exercises. Modeling, weaving, and simple joints. Sewer under guidance of put together without tools. Wood-working. Various very simple objects. Study of the principal tools used in iron-work. Exercises with the file, trowel, or chisel, all objects made from the page or from the cast-iron.	First notions of geometrical drawing and elements of perspective. Freehand—Drawing, partly geometrical objects from the flat and descriptive modeling, from wheel-spokes, pear-shaped devices, etc. Drawing on the flat and in relief of ornaments borrowing their elements from the vegetable kingdom—leaves, flowers, and fruit, and from nature. Elementary notions on the orders of architecture, given in perspective by the master, in three lessons. Drawing the human head, in profile and perspective. Geometrical—Carried out on paper with the aid of instruments. The geometrical designs done in the middle standards. Transmission of outlines in flat light. Applying the notions of descriptive geometry to the construction of simple objects, such as a vase, a bowl, a box, etc. Sketches and color washes of some of these designs. Representation of geometrical solids by sketches, and by geometrical projections, and also of simple objects, such as a house, furniture, iron-work, etc. The use of washes to represent the texture of materials. Sketches of planes and on maps.	Summary notions on geometry and on the measures of volumes. Application to the simple operations of carpentry. An idea of weaving.

NOTE.—It may be added that the spirit of these programmes is thus explained in the official note: "For the Thirteen Manuals of Boys, the exercises are in two groups: the one comprises the different exercises designed to develop aptitudes in the figures, and regularity and accuracy of movement; the other those intended exercises in modelling, which serve as the complement of the corresponding study in drawing, and particularly in technical drawing."

From these programmes it is evident that no manual instruction, in the sense of carpentry, is given to the average French boy, until after the age of eleven. And, it must be remembered, that a boy or girl is exempted from compulsory attendance by obtaining the *Certificat d'Etudes Supérieures*, and that this certificate is obtainable any time after the eleventh year, and does not involve any examination in the matters of manual instruction. Hence the use of tools and the higher forms of manual instruction are by no means universally given to French school children.

It has often been urged that manual training should be made one of the obligatory subjects in the exemption examination; but it is objected that it would be exceedingly difficult to maintain a uniform standard, and a uniform test, by one single examination.

On the other hand, in the case of girls, sewing is an obligatory subject for this examination, and, as has been said, this subject corresponds, for them, to the manual training of the boys.

It is in the *higher primary schools* that the manual instruction of boys is most thoroughly carried out. These schools keep boys from about the twelfth to the fifteenth or sixteenth years; and in them all the boys have a very thorough course of manual instruction, averaging from four to six hours a week, except in the commercial section, where it is confined to two hours.

But this sketch of the manual instruction in French Primary Schools would be quite incomplete unless mention were made of the place compulsorily given to the practical side of agricultural education in the primary schools in rural districts. This education

in the middle standards (nine to eleven years), with
 "Notions on the principal kinds of soils, manures,
 usual implements and operations of soil cultivation,
 by means of lectures, object lessons and walks."

In the next Standard (11 to 13 years) it includes —

"Meat: nomenclature of agricultural
 work, ploughing implements, drainage; natural
 and artificial manures, seeds, sowing and har-
 vesting; domestic animals, agricultural book-
 keeping; notions of horticulture, principal
 methods of cultivating the vegetables of common
 use; notions of arboriculture—the most im-
 portant graftings."

From this syllabus it is evident that, at all events
 in the rural schools, the main object of the primary
 school in France in these days is to give a definite
 preparation for the after-life of the scholar. But
 when the same principle is applied to the schools for
 town lads, an objection is often raised that the
 primary school must not teach a definite trade, nor
 prepare for any one definite occupation. Yet the
 utilitarian spirit is sometimes too strong to maintain
 this limitation; and in some of the largest cities,
 notably Paris, the boy is as definitely prepared in
 the higher Standards (though in a general way) for
 urban life, and as great efforts are made to lead him
 to that career, as in the case of the rural boy for
 agricultural life. And in each case, many supporters
 are found for the theory that the primary school must
 definitely play a leading part in keeping the mass of
 the people to the soil and to the workshop; and in
 deterring the rush towards clerical and other non-
 productive occupations. The strength of this feeling
 is shown by the following note which has been
 recently issued:—

"The Society of Cabinetmakers of the Seine
 have issued the following expression of opinion
 as to the value of manual work in the primary
 Schools:—We think this instruction answers in
 every point to the needs of the working class,
 that it renders incontestable services to the sons
 of working men by the encouragement it offers
 them to familiarise themselves with different
 manipulations, by the usefulness of the appli-
 cation of geometrical drawing, and by the facility
 acquired by young apprentices in the use of
 tools. We are persuaded that this instruction
 has a considerable effect upon the intelligence,
 taste, and skill of our children, while at the
 same time it gives them a love for work,
 and especially saves them from the drowsy, so
 common nowadays with the sons of workmen on
 leaving school, for employment in offices and in
 the civil service, for which the supply is always
 greater than the demand. The boy who leaves
 school with a modest leaving certificate forces
 himself a genius, and imagines that the tool
 which hews and blackens the boards, though it
 seems white bread, is a dishonourable thing to
 handle, fit only for the dunces and scoundrels.
 Let us teach him that even a workman may
 aspire to knowledge; let us honour manual work
 in his eyes—results which will be best attained
 by familiarising him with work from his earliest
 years. For that purpose, good master-workmen,
 we are convinced, will never be wanting."

The same economic aspect of the question is
 emphasised in the revision of the Agricultural
 Syllabus, which is now being made. The following
 are the chief points referred to in the new general
 directions:—†

"It is not the science of agriculture that is to
 be taught, but elementary notions of that science,
 the teaching is to be addressed much less to the
 memory of the children than to their intelligence
 and must be based upon the observation of the

daily facts of rural life, and upon such simple
 experiments as the school can provide in the
 scientific phenomena which lie at the root of the
 most important cultural operations; the children
 are to be taught the reason of these operations,
 and the causes of the results, but not the opera-
 tions themselves, which, indeed, their fathers
 could probably teach them much better than the
 master, and which they will learn easily enough
 when the time comes by practical experience;
 the school is to confine itself to preparing the
 child for an intelligent apprenticeship to the
 trade by which he will live, and to giving him
 a taste for it, and in this respect the master must
 never forget that the best way of making a
 workman like his work is to make him under-
 stand it; the general aim of the instruction, in
 short, is to give as many children of the rural
 districts as possible such elementary knowledge
 as is indispensable for reading a modern work on
 agriculture with understanding, and for following
 a lecture with profit, to inspire them with love
 for the life of the fields, and with the desire not
 to shudge it for the life of the town or the
 factory, and to impress them with the truth that
 the business of the agriculturist, while it is the
 most independent of all, is also more remunera-
 tive than many others, for the man who is at the
 same time laborious, intelligent, and instructed.
 A further suggestion is that "the master shall
 bring his general instruction into relation with
 the daily need of the surrounding population by
 often giving to his lessons in language, arith-
 metic, &c., an agricultural colour." Poems and
 incidents of rural life, and problems relating to
 the price of provisions bought or sold in the
 neighbourhood, or to the mixing of food for the
 cattle, &c., will, it is said, often lend valuable
 aid to the agricultural instruction proper."

Thus, while the educative side of manual training
 was perhaps its chief originating power in the early
 days, it must be said that, at the present time, the
 enthusiasm for it is more decidedly based upon the
 wish to give the elementary school-boy a practical
 preparation for the manual occupation by which he
 will earn his bread.

TRAINING COLLEGES.

The law of 1873, which makes agricultural educa-
 tion compulsory, stated in clause 19, "Three years
 after the complete organisation of agriculture in the
 training colleges, the elementary notions of agricul-
 ture will be included amongst the compulsory sub-
 jects in primary schools."

This emphasises a most important point in all
 schemes of manual instruction, viz., that they must
 be preceded by a careful and specially prepared
 educative course for teachers in the training colleges.
 At present the subject of "Travaux Manuels et
 Agricoles" is given as much as five hours a week in
 all French (primary) training colleges—a greater
 amount than is given to any one other branch of
 instruction—drawing and modelling take four hours,
 sciences three, mathematics four, mother tongue five,
 and so forth. Of this amount, agriculture is to take
 up about two hours, or a total of about eighty hours
 in the year taken at the right seasons. Monsieur le
 Blanc, in his book "L'Enseignement Manuel" (pages
 33 to 38), gives full details of the best methods of
 arranging the manual work in the training college
 programme. Every training college is compelled to
 have a specified outfit of tools, and a workshop, and
 other apparatus for this branch of work. It may be
 mentioned that an *auxiliaire* is usually engaged to
 assist in this work, but he is not permitted to take
 part in the actual instruction. He merely helps in pre-
 paring material, keeping tools in order, and so forth.

* This quotation is from the March (1897) number of the *Journal of Education* published by Wm. Rose, Fleet-street, London.

† Quoted from the new number of the *Journal of Education*.

APPENDIX A.
V.

The manual instruction programme of the training colleges is given in an *arrêté* of January 3rd, 1891. The attainment of skill in doing the exercises would appear to be a more prominent object than the imparting of principles or theories of the educative value of the several exercises, or the reasons for following one syllabus rather than another for training the lads of the elementary school.

12.—UNITED STATES OF AMERICA.

The development of manual training in the United States has been very rapid during recent years. The growth of the movement has been especially noticeable in the North-Eastern States. Its history is narrated in Mr. C. M. Woodward's paper on "The Rise and Progress of Manual Training" in the Report by the Commissioner of Education, United States of America, 1893-94 (vol. I, pages 877 to 949). A characteristic feature of the American movement has been the establishment of a new type of school of the High School grade, called the manual training school, the design of which is to furnish a curriculum including literature, science and mathematics, with, at the same time, a thorough course in drawing, and in the use and application of tools. The object of these schools is not that of a trade school. The curriculum does not confine itself to mechanical studies. But the schools aim at giving

"a broad foundation of serviceable knowledge upon which the boys can readily build whatever superstructure of expertness may be required by their future career."

Manual training has also been introduced into the primary schools, especially in New York and in Massachusetts. And Mr. Edward Brooks has prepared a course of instruction in modelling for the primary and secondary schools in Philadelphia.

In the "Course of studies for elementary schools," prepared under the direction of the Massachusetts Board of Education (1896), there is an outline of a course of lessons in *loyd*, aiming at "the harmonious development of the pupil," and at "giving him, by manual exercises, . . . such general training as will tend to fit him mentally, morally, and physically for any subsequent special training."

The "Regulations of the public schools of the City of Boston" (1895), contain (pages 42 and 43) regulations for the manual training schools which are established for the purpose of giving manual instruction to the pupils of the public (primary) schools.

The Board of Education of the City of New York has published (1895) a "manual training course of study," containing the order of exercises, arranged in six grades, which are prescribed for primary schools.

The cost of maintaining manual instruction is largely borne by subsidies from public funds, supplemented by contributions from societies, and by private subscriptions.

NOTES ON THE SYLLABUS FOR NATURAL SCIENCE TEACHING IN THE ELEMENTARY SCHOOLS OF GERMANY AND FRANCE.

The following notes show the requirements as to the teaching of natural science in the elementary schools and *Mittel Schulen* (higher elementary schools), and in the training colleges of Prussia, and also in the elementary schools of the kingdom of Saxony,

and the Grand Duchy of Saxe-Weimar, and in France.

Though not manual instruction in the strict sense, this science teaching is closely allied with it from the educational point of view.

NATURAL SCIENCE TEACHING AND MANUAL TRAINING IN THE ELEMENTARY SCHOOLS OF GERMANY,

PRUSSIA.*

In the Elementary Schools of the simplest organization, with only one teacher, the number of hours allotted to the different branches in the various divisions is as follows:—

—	Lower Division	Middle	Higher
Religious Instruction, . . .	5	5	5
German,	12	12	5
Arithmetic,	4	4	5
Geometry,	—	—	—
Drawing,	—	2	2
"Reading,"†	—	5	4
Singing,	2	2	2
Gymnastics	—	—	—
History,	—	2	2
	28	30	30

In Schools with more than one Teacher:—

—	Lower Division	Middle	Higher
Religious Instruction, . . .	5	4	4
German,	12	8	5
Arithmetic,	4	4	4
Geometry,	—	—	—
Drawing,	—	2	2
"Reading,"†	—	5	4 (5)
Singing,	2	2	2
Gymnastics,	—	—	—
Swing,	2	2	2
	33	28	30 (32)

* These rules are excerpted from the "Allgemeine Bestimmungen des Königlich Preussischen Ministers der Gelehrten, Unterrichts- und Religions-Angelegenheiten vom 12. October, 1872, hinsichtlich des Volksschul-Unterrichts, des- und Gesangs-Unterrichts."
† "Reading," includes instruction in History, Geography, Object Lessons and Natural Science.

OBJECT LESSONS IN NATURAL HISTORY, BOTANY, &c.

(NATURGESCHULESUNG).

The instruction in natural knowledge includes, besides the description of the build and life of the human body, that of the native rocks, plants, and animals, and of the foreign ones, the chief breeds of prey, animals and plants of the East, those cultivated plants of which the products are in daily use in our country (tobacco plant, tea plant, coffee tree, sugar cane). Of native objects, those are to be emphasized which arouse special interest (1) through the services which they render men (e.g., domestic animals, birds, silk-worms, corn, plants for spinning, fruit trees, salt, coal), (2) through the harm which they do men (poisonous plants), (3) through the peculiarity of their life and way of living (e.g., butterfly, trichina, tape-worm, bee, ant).

In schools with more teachers than one, such objects

may not only be increased in number, but may be systematically arranged and more exhaustively treated as to their use in industry. Everywhere the aim of this instruction should be to accustom children to an attentive observation, and to bring them up to a thoughtful consideration of nature.

NATURAL SCIENCE.

In the Natural Science instruction of a school with one or two teachers, the pupils are to be led to a comparative comprehension of those phenomena which daily surround them.

In large schools this instruction is to be extended to include the most important principles of the equilibrium and movement of bodies, of sound, light and heat, magnetism and electricity, so that the children are able to explain the commoner natural phenomena and the most usual machines.

MITTEL-SCHULEN.

OBJECT LESSONS.

(III. and II. Class, two hours a week.)

A description of selected phanerogamic plants with reference to their application to domestic uses, of the most important native mammals and birds and selected representatives of the classes of animals in regular progressive representation.

(I. Class, two hours a week.)

A continued description of plants—a training to distinguish native ones with particular reference to their useful or harmful qualities. General notions about the life of plants. Knowledge of the human body. Diet. Description of animals in systematic order. The most important minerals. In the whole instruction the pupils are to be encouraged in an independent and attentive study of nature.

NATURAL SCIENCE.

(II. Class, two hours a week.)

Mechanical properties of solids, fluids and gases. The simplest phenomena of magnetism.

(I. Class, three hours a week.)

The most important principles of elasticity, heat, light, and sound; in a separate lesson the beginnings of chemistry.

In schools with more than six classes a more systematic instruction in physics and chemistry; also information as to the build and formation of the earth's crust. In all this instruction, good natural specimens, models or pictures, are to be used; and in physics the instruction is to be based on experiment.

TRAINING COLLEGES.

III. CLASS.

(a) *Object Lessons*.—Knowledge of selected native seed plants, which belong to the most widely distributed families. Knowledge of the system of Linnaeus, and the most important elements of botanical morphology.

In winter, Zoology (two hours a week).

(b) *Physics*.—Magnetism, electrical, mechanical phenomena.

(c) *Chemistry*.—The simplest elements and their combinations. Special reference to metals.

II. CLASS.

(a) *Object Lessons*.—Knowledge of the chief forms of seedlings. Formation, life and distribution of the plants.

In winter, continuation of Zoology: the internal organs and the vital processes of the human body.

(b) *Physics*.—Phenomena of light, heat and sound.

(c) *Chemistry*.—Extension of previous course—in addition, organic chemistry.

I. CLASS.

Development of the instruction on more strictly scientific lines. Fresh matter—the crust of the earth.

KINGDOM OF SAXONY.

ELEMENTARY SCHOOLS.

NATURAL HISTORY AND NATURAL SCIENCE.

In Natural History the pupils are to become acquainted partly with the most important animals, plants, and minerals, according to their properties and uses; partly with chief facts about the build and care of the human body—but in Natural Science, they are to be led to understand the commonest and most important natural phenomena.

In the third and fourth school years, this instruction is devoted chiefly to a description of characteristic representatives of the animal and vegetable kingdoms.

In the following years the circle of these descriptions is extended with reference to natural groups, but all scientific classification is to be excluded.

GRAND DUCHY OF SAXE WEIMAR.

ELEMENTARY SCHOOLS.

For the middle classes useful plants, poisonous plants, domestic animals, and the commonest minerals are to be selected as objects for the instruction. In the upper classes this instruction deals with characteristic

groups out of the three realms of nature, the kind, of soil, corn, the plants of trade: the most important elements of natural science with regard to the commonest phenomena.

FRANCE.

The *Arrêté* of January 18th, 1897, laid down these rules for all public elementary schools.

Article V.—i. One lesson every day, for moral instruction.

ii. About two hours every day for lessons in the mother tongue.

iii. From one to one-and-a-half hours every day for scientific instruction, half for arithmetic, and half for object lessons and elementary science.

iv. One hour daily for history, geography, and civic instruction.

v. One hour daily for writing, in the lower classes.

vi. Three or four lessons a week in drawing.

vii. One or two hours a week for singing.

viii. Gymnastics once a day.

ix. From two to three hours a week for "travaux manuels."

ELEMENTARY SCHOOLS.—NATURAL SCIENCE.

Infant Standards, 5 to 7 years.

Very elementary notions of the human body; hygiene (little bits of advice), small comparative studies of animals known to the child, and plants, stones, metals; some plants used for food and for industrial purposes; stones and metals in common use.

Air and water (steam, clouds, rain, snow, ice).

Little object lessons, the objects always to be in the children's hands, or under their eyes.

Exercises and familiar conversation, with the object of making the child acquainted with the first elements of common knowledge (right and left hand; names of the days and months, distinction between animals, vegetables and minerals; the seasons, &c.), and specially causing them to notice, to observe, to compare, to question, and to retain impressions.

As regards the order to be followed in these lessons, the teacher should attempt to gather together, whenever possible, the object lesson, the drawing, the moral lesson, the games and the songs by taking one and the same subject in each of them, so that the unity of impression of these various forms of instruction may leave a more durable impression on the mind and heart of the child. The order of the

lessons must be regulated by the order of the seasons, in order that nature may provide the objects for the lessons, and the child thus contract the habit of observing, comparing, and judging.

Elementary Standards, 7 to 9 years.

Graduated object lessons: man, animals, vegetables, minerals. Observation of common objects and phenomena, with simple explanations. General notions on the transformation of natural products into manufactured articles (food, silk, paper, wool, stone, metal). Little collections made by the scholars, specially during the school walks.

Middle Standards, 9 to 11 years.

Very elementary notions of natural sciences. General description of the human body, and an idea of the principal functions of life. Notion of the great classes of animal life and of the divisions of vertebrates, taking one animal as the type of each group. Study of several types chosen from the principal organs of a plant; notion of the great divisions of the vegetable kingdom; indication of the principal useful and harmful plants (specially on the school walks). The three states of matter. Notions on air and water and combustion. Small experimental demonstrations.

Superior Standards, 11 to 13 years.

Notions of natural sciences; revision of the previous course, with additions.

Notions on digestion, circulation, respiration, the nervous system, the organs of sense. Practical counsels on hygiene. Abuse of alcohol, tobacco, &c. Chief characteristics underlying animal classifications. Useful and harmful animals.

Essential parts of a plant: principal groups. General notions on soil, rocks, fossils, earth; examples taken from the neighbourhood. Excursions and small collections.

First notions of physics. The balance. The lever. First principles of the equilibrium of liquids. Atmospheric pressure. Barometer. Very elementary notions, and easy experiments, in heat, light, electricity, magnetism, the thermometer, steam engine, lightning conductor, telegraph, compass. First notions of chemistry. Idea of simple and of compound matter. Metals and common salts.

VI.

REPORT by Mr W R J MOLLOY, on a Visit to HARRINGAY and STROUDGREEN SCHOOLS, under Hornsey School Board, London.

The Haringway and Stroudgreen Schools, under the Hornsey School Board, were visited on the 23rd March, 1897, by the following Members of the Commission on *Manual and Practical Instruction in Primary Schools*—His Honour Judge Shaw, Rev Dr. Wilson, Mr. S. Harrington, Mr. J. Struthers, Mr. W R J Molloy.

The Chairman and several Members of the Hornsey

School Board, also the Secretary, and Mr. J. C. Cooke (of the staff of the London School Board) kindly received the Commissioners and afforded information.

Both School buildings are spacious and admirably equipped—especially the Stroudgreen School, which is comparatively new—the cost, including site, having amounted to £49,500.

Classes of girls in physical drill and of boys in kindergarten (cardboard occupations) were observed under instruction, and the cookery room and kitchen were visited. It was stated that 1,700 boys are receiving instruction in woodwork in the schools under the Hornsey Board. There are no central workshops under this Board. The more expensive plan is adopted of having suitably fitted up rooms for woodwork or other special bench (such as cookery) at each of the large schools. The time of the pupils is going from their own to other (central) schools, which in the practice elsewhere, is thereby saved.

No more artisans are employed here as instructors in woodwork. The subject, which is taken up from an educational—not utilitarian—standpoint, is commenced in Standard IV. and continued for a three (or four) years' course with boys in the higher standards.

Examinations are held by the Science and Art Department.

At the Haringway School the Commissioners found thirty-six boys under instruction in woodwork.

Mr J. C. Hudson (certificated under the City and Guilds of London), who had studied the *Slöyd* system in Sweden, and who acts as Superintendent under the Hornsey Board, gave a brief exposition of the principles and aims of the modified form of Swedish "*Slöyd*" which he carries out in the Hornsey Board Schools. The details are set forth in great measure in the subjoined statement.

EDUCATIONAL HANDWORK.

Woodwork.—The series of models and exercises in woodwork have, with many modifications, been in use in the schools under the Hornsey Board for Hornsey for the last six years, and during that time about three thousand boys have been taught in school handwork under this system.

Principles and Aims.—Briefly, our aims are:—

- 1.—Not to teach the elements of a trade, but to supplement the ordinary literary education by supplying the manual exercises, and by cultivating the mental and moral qualities for which theoretical education alone affords insufficient scope.
- 2.—To develop the power of expressing and using knowledge in forms of beauty, and for definite ends.
- 3.—To teach the child to investigate, measure, compare, invent, and to train to concentration of thought.
- 4.—Through the self-activity of the child to develop the love of work for its own sake.

Some of the distinguishing features of this system of handwork for schools are:—

- 1.—The careful gradation of the exercises, which prevents the necessity of any division of labour. Thus every exercise on every model can be worked entirely by the pupil.
- 2.—The exercises include work in hard and soft woods, and the pupils thus learn the uses and texture of different kinds of wood.
- 3.—There is an essential proportion between exercise, drawing, and tool.
- 4.—The great variety of models employed, and nearly all of these familiar objects of use in everyday life.
- 5.—The exercises occurring on the models include all the principal operations in ordinary woodwork.
- 6.—The number and variety of the tools employed, about 65.
- 7.—The prominence given to freehand curves.

Method, &c.—In teaching the earlier exercises, much use should be made of blackboard illustrations, and

practical demonstrations of each step should be given by the teacher. Much attention must be given to train the child into correct methods of holding and of using the tools, also the best position of the body generally while at work. Great assistance can be given to the children in the working of the early exercises and models by the use of well-made models and drawings, mounted side by side on stout cards, and distributed among the pupils as required. These will aid them in getting true ideas of level surfaces, squaring, roundness, smoothness, &c., and will be found very helpful in training them to see the relation between the object and the drawing of it.

In these early lessons the teacher must also, by means of frequent short demonstration lessons, make quite sure that the proper use of the rule, and the meaning of its divisions into inches, &c., are thoroughly understood by the children, as well as the meaning and use of the try-square, the method of handling and using the striking-knife, saw, &c., and the meaning and use of a few easily understood technical terms.

The child is supplied with a copy of the Bench Notes corresponding to the model he is working upon. These Notes will enable him to perform each step of the work in its proper sequence, and will make the success of his efforts to depend as much as possible upon his own industry, and the exercise of his own intelligence and skill. The Practical Notes are arranged so that technical and unfamiliar terms are introduced very gradually, and only after they have been used and explained by the teacher in the theoretical or demonstration lessons. The Notes are made brief and more of a merely suggestive character as the course advances.

It will be found that the Bench Notes, if properly used, will prevent much waste of time and energy on the part of the teacher, will prevent discouragement to the child, and will help to economise material.

Drawing and Theoretical Lessons.—Throughout the whole of the course for Standard V, it is found to be necessary to give class teaching on the construction of working drawings to plan, elevation, section, &c., but during greater part of the course for Standard VI, and throughout the whole of the work for Standard VII, the scholars may be allowed to prepare their drawings from the copies on the cards, as these are required for the work. The completed object which corresponds to the drawing should be examined and handled by the pupil as the drawing proceeds, and the teacher must give the same individual supervision to the drawing as he gives to the bench work, pointing out new features, and explaining difficulties, &c. The boy may be asked occasionally to prepare his drawing by actual measurements from the object itself.

The children should be frequently asked to judge and to compare sizes and forms, and frequent collective lessons, lasting from twenty to thirty minutes, should be given on the principles of construction, uses, and in some cases the origin of the woodworking tools, and on the growth, qualities, seasoning and uses of timber, and the principal countries and parts engaged in exporting timber should be named and found on the map.

Tools.—The following is a complete list of all the tools required for a class of twenty scholars. Many of these have been modified in various ways to suit the needs of children:—

Bench Sets.—

- 20 Jack-planes, 15 in. long, $2\frac{1}{2}$ in. double irons.
- 20 Try-squares, $4\frac{1}{2}$ in. blades, rosewood.
- 20 Bech marking gauges.
- 10 Hammers, Bester pattern No. 6, ash handles.
- 10 Bech mallets, moused oval handles.
- 20 Steel rules, 18 in., divided to 16ths.
- 10 Striking knives, bech handled.

APPENDIX A.
VI.

General Tools.—

- 6 Panel saws, 22 in. and 24 in. blades.
- 1 Half-rip saw, 24 in. blade.
- 2 Tenon saws, 12 in. blade, brass backs.
- 10 Back saws, 10 in. blade, brass backs.
- 2 Dovetail saws, 8 in. blade, brass backs.
- 6 Bow saws, with extra webs, 1 12 in. web, 2 10 in. web, 1 8 in. web.
- 1 Compass saw.
- 12 Extra thin Firmer chisels, 1 in., with handles.
- 2 Firmer chisels, $\frac{3}{4}$ in., boxwood handles.
- 2 Firmer chisels, $\frac{1}{2}$ in., $\frac{1}{2}$ in., $\frac{1}{4}$ in., one pair of each size, boxwood handles.
- 4 Firmer chisels, $\frac{1}{2}$ in., boxwood handles.
- 4 Firmer chisels, $\frac{1}{4}$ in., boxwood handles.
- 1 of each Firmer gouge, 1 in., $\frac{3}{4}$ in., $\frac{1}{2}$ in., boxwood handles.
- 6 Bent scrapers, 1 in., boxwood handles.
- 1 of each, scribbing gauges, $\frac{1}{2}$ in., and $\frac{1}{4}$ in., boxwood handles.
- 6 American pattern braces (Miller's Falls), 8 in. sweep.
- 30 Bits (black, assorted gill and oastre bits).
- 1 Auger bit, $\frac{1}{2}$ in. (Leansing's patent).
- 4 Mortise gauges, rosewood, thumb-screw slide and head.
- 1 Cutting gauge, beech.
- 4 Sliding bevels, 9 in. blades, rosewood stocks.
- 1 Draw knife, 6 in. blade.
- 7 Pairs black spring dividers, 4 in.
- 6 Bradavis, various sizes.
- 6 Gimbets, various sizes.
- 3 Small hand planes.
- 3 Flat files, each with one safe edge, with handles.
- 8 Half-round cabinet files, 10 in., with handles.
- 2 Round files, 10 in., with handles.
- 1 Saw file, 6 in., with handle.
- 4 File brushes, mounted.
- 8 Iron spokeshaves, Am. pattern, round fronts, 1 extra blade for each.
- 1 Copper glue kettle, to hold 1 quart.
- 4 G. cramps, to take 6 in.
- 2 Square shooting boards.
- 1 Mitre shooting board.
- 1 Mitre block.
- 2 Pass: Taper pins.
- 4 Cabinet turn screws, oval handles.
- 2 Washita oil-stones, coarse.
- 2 Oil cans, pyramidal shape.
- 5 Cork rubbers.
- 4 Flat scrapers.
- 2 Claw and scrapers, egg shaped.
- 1 Bevel plane, 1 in. skew iron.
- 1 Quirked bending plane, $\frac{1}{4}$ in.
- 1 Quirked oval or open, $\frac{1}{2}$ in.
- 3 Tying planes, 18 in. long, 2 in. irons.
- 2 Iron smoothing planes, 8 in. long, 2 in. cutters.
- 2 Block planes, 5 in. long, 1 in. cutters.
- 1 Plough plane and set of bits.
- 2 Pairs 4 in. egg callipers (outside).
- 2 Pairs 4 in. egg callipers (inside).
- 1 Try-square, 12 in., rosewood.
- 1 Grindstone, medium grit, 2 ft., mounted on iron stand, with anti-friction rollers, hand and treadle, with drip can.

The first cost for complete outfit of tools of the very best quality, including a set of dual benches, is about £2 10s. to £2 15s. per scholar. The annual cost of wood, screws, glue, and other materials is from 1s. 6d. to 2s. per scholar.

APPENDIX A.
VII.

VII.

REPORT by Mr. W. R. J. MOLLOY, on a Visit to ABBEY STREET BOARD SCHOOLS, Bethnal Green, London.

The Abbey Street (Central) Board Schools, Bethnal Green, were visited on Friday, 26th March, 1897, by the following members of the Commission.—The Honourable Judge Shaw, Rev. Dr. Wilson, Mr. J. Strathern, Right Rev. Monsignor Molloy, Professor Fitzgerald, Mr. W. R. J. Molloy.

Mrs. Heenan, Member of the London School Board, who takes deep interest in the working of these schools, and Mrs. Lord, the Organizer and Superintendent of Girls' Schools for special work under the London School Board, were good enough to attend and afford every facility to the Commissioners in acquiring a knowledge of the practical work done. Both ladies, in the afternoon of the day of our visit, attended and gave additional information at the Examination Room of the Commission. Their evidence appears upon the Minutes of the day's proceedings.

The special works taken up at the Abbey Street (Bethnal Green) Central Schools comprised—

- (i.) Housewifery, (ii.) Laundry, and (iii.) Cookery.

(i.) The Housewifery instruction, though only recently introduced, has, so far, proved a marked success.

Four rooms in a building, previously occupied by the caretaker, have been fitted up at a cost of about £40 to represent a respectable artisan's dwelling, viz.:—Sitting-room, bedroom, kitchen, and scullery.

Girls from this and neighbouring schools—in relays of about a dozen—attend here. About 300 are under instruction during the year.

All the work of keeping this dwelling-house in order is carried on by the girls usually of the 10th and 11th Standards—13 to 14 years of age—under the direction of teachers specially trained.

The family dinner was prepared in our presence, the sitting-room table laid, and the bed made and room settled up by the girls, the teachers merely pointing out mistakes, and getting the girls to rectify them.

Lectures in simple language are given by the teachers, of which the pupils take notes.

The lecture to which we listened was on a *Lease*, and how to clean it and keep it in order. Instruction is also given on drainage, ventilation, simple ailments, and nursing.

Subjoined will be found the syllabus of the housewifery centre here for the month ended 19th March, 1897.

We were informed that both parents and pupils cordially entered into the spirit of this special branch.

(i.) Similarly in the *Laundry Room* a dozen girls were engaged at work. An excellent demonstration was given before us by the teacher. All the operations are illustrated by experiment; when (say) soap is spoken of, the constituents of soap are fully explained.

The laundry syllabus for the month of March will be found below.

(ii.) A precisely corresponding course is pursued in teaching the *cooking class*. The dinner that was being prepared by the girls when we visited consisted of pork, liver, and bacon. The blackboard is freely used, and the girls take notes. The exercise books contain the current prices of the articles used. There is a profit made on the articles cooked, but the making of a profit is not essentially aimed at. All the necessary materials throughout the classes are supplied by the School Board. The cooking syllabus for March, 1897 (first four lessons), is subjoined.

The girls while engaged at the exercises wore uniforms of a plain character.

Great importance is attached to the children being neat and accurate in all their work. They keep the rooms and all articles used in good order. They also attend to such washing of the rooms as their strength will allow.

The housewifery centres under the London School Board may be said to be a new experiment.

The following statistics were kindly furnished to us, showing the extension and cost of the laundry and cookery centres generally, viz:—

LAUNDRY WORK.

- (a) 95 centres opened to date (March, 1897), under 98 instructresses and probationers.
- (b) Total expenditure for year ended Lady Day, 1896, £2,739 4s. 8d., i.e., gross cost per child, 11s.

(c) 12,762 girls completed a course of instruction during the year.

(d) In addition, 139 non-Board scholars completed a course of instruction in the laundry centres of the Board.

COOKERY.

- (a) 140 centres and eleven rooms opened to present date (March, 1897), under 190 instructresses and probationers.
- (b) Total expenditure for year ended Lady Day, 1896, £27,356 6s. 5d., i.e., gross cost per child, 12s. 2d., and net cost per child, 11s. 10d.
- (c) 31,879 girls completed a course of instruction during the year.
- (d) In addition, 688 girls from non-Board schools completed a course of instruction in the cookery centres of the Board.

APPENDIX A.
VII.

DOMESTIC SCIENCE LESSONS for month ending March 19th, 1897.

SYLLABUS for HOUSEWIFERY CENTRE, ABBEY STREET BOARD SCHOOL, Bethnal Green.

STANDARD VI.

LESSON I.

1. Theoretical Lesson—

General rules on the selection of a house or lodgings, situation and general convenience. Hints on furnishing, with some knowledge of cost.

2. Practical Lesson—

(a) *Demonstration*.—To inspect articles of furniture in Housewifery Centre, and discuss merits or demerits of the same—actual cost of furniture and use. To give directions for cooking a workman's dinner.

(b) *Practical work by class*.—Cooking the dinner and some housework.

LESSON II.

1. Theoretical Lesson—

The drainage of the house, with special reference to the duties of the housewife in cleansing the drains.

2. Practical Lesson—

(a) *Demonstration*.—Cleansing the house drains.

(b) *Practical work by class*.—Cooking the dinner and some housework.

LESSON III.

1. Theoretical Lesson—

Continuation of lesson on drainage, with special reference to water supply and cleansing of water-cisterns. The daily work of the home.

2. Practical Lesson—

(a) *Demonstration*.—One of the items of daily work, as setting the dinner or tea table.

(b) *Practical work by class*.—Cooking the dinner or preparing the tea.

LESSON IV.

1. Theoretical Lesson—

Combustion. The science of fire-lighting. Warming by coal fires (radiation).

2. Practical Lesson—

(a) *Demonstration*.—Laying and lighting a sitting-room fire.

(b) *Practical work by class*.—(a) with revision of previous lessons.

STANDARD VII.

LESSON I.

1. Theoretical Lesson—

Introductory lecture on the importance of cleanliness in the home—the rooms we live in—the air we breathe. Necessity for ventilation.

2. Practical Lesson—

(a) *Demonstration*.—Tidying the kitchen—washing dishes and cleaning cookery utensils.

N.B.—The order of the practical work of Standard VI. to be reversed when Standard VII. attend in the morning and Standard VI. in the afternoon.

(b) *Practical work by class*.—Same as (a).

LESSON II.

1. Theoretical Lesson—

Ventilation of the bed and bedroom. Directions for making a bed.

2. Practical Lesson—

Making a bed and tidying the bedroom.

(b) *Practical work by class*.—Assisting teacher in above work.

LESSON III.

1. Theoretical Lesson—

The ventilation of the sitting-room—directions for cleaning the same.

2. Practical Lesson—

(a) *Demonstration*.—Cleaning the sitting-room and lighting the fire.

(b) *Practical work by class*.—(a) with revision.

LESSON IV.

1. Theoretical Lesson—

Portioning out the weekly income—the daily meals, especially the dinner, with special reference to cost and requirements.

2. Practical Lesson—

(a) *Demonstration*.—Arranging a week's dinner for the home, and directions for making a dinner.

(b) *Practical work by class*.—(a) with revision; if afternoon class teacher may substitute preparing tea instead of dinner if advisable.

DOMESTIC SCIENCE LESSONS for month ending MARCH 19th, 1897

SYLLABUS FOR LAUNDRY CENTRE, ARMY-STREET BOARD SCHOOL, BETHNAL GREEN.

STANDARD IV.

LESSON I.

1. *Theoretical Lesson*—

Clothing. Its uses. The effects of different kinds of clothing and different thicknesses of the same clothing in preventing loss of heat from the body.

2. *Practical Lesson*—

(a) *Demonstration* on the care and use of utensils.

(b) *Practice* work in (a).

LESSON II.

Flannels and woollens. Their source and nature. Action of different degrees of heat upon them.

Practical Lesson—

(a) *Demonstration*.—Washing flannels and woollens.

(b) *Practice*. Washing of above.

LESSON III.

Theoretical Lesson—

The processes of washing, rinsing, and bluing clothes.

Practical Lesson—

(a) *Demonstration*.—Washing fine things.

(b) *Practice* in above.

LESSON IV.

Theoretical Lesson—

Linens. Its source and nature.

Practical Lesson—

(a) *Demonstration*.—Washing table linen and serviettes.

(b) *Practice* in above.

STANDARD V.

LESSON I.

1. *Theoretical Lesson*—

The materials used in the laundry. 1. Water. Its source. Hard and soft water. How hard water may be softened. Action of hard and soft water on soap.

2. *Practical Lesson*—

Washing fine white articles in soft water.

LESSON II.

1. *Theoretical Lesson*—

Soap, its composition and use in the laundry.

2. *Practice*—

Washing bed and under-flies.

LESSON III.

Theoretical Lesson—

Soda, potash, and ammonia. Their use and abuse in the laundry. Alkalies.

Practical Lesson—

Washing coarse things and a few greasy articles. Folding.

LESSON IV.

Theoretical Lesson—

Blue. Whence obtained and its use in the laundry.

Practical Lesson—

Bluing and ironing body clothes.

DOMESTIC SCIENCE LESSONS for month ending MARCH 19th, 1897

SYLLABUS FOR COOKERY CENTRE (FIRST 4 LESSONS), ARMY-STREET SCHOOL, BETHNAL GREEN.

STANDARD V.

LESSON I.

Theoretical Lesson—

Introductory lesson on food. Its triple work. The three body feeders. Flesh repairing, strength giving, mineral foods.

Practical Lesson—

(a) *Demonstration*.—Milk as sample of perfect food. Rice pudding. Boiled and steamed potatoes.

(b) *Practice* by class in work demonstrated.

LESSON II.

Theoretical Lesson—

General knowledge of the advantages of cooking food is to be illustrated by boiling water and cooking an egg, and making vegetable soup.

(a) *Demonstration* and lecture to be given at same time. Vegetable soup. Cooking eggs.

(b) *Practice*. Vegetable soup. Cooking eggs. Boiled potatoes, and rice pudding.

LESSON III.

Theoretical Lesson—

Animal foods. (1) Meat—its use as an article of diet. How to choose good meat.

(a) *Demonstration*.—Roast meat and Yorkshire pudding.

(b) *Practice* in above with potatoes and milk pudding.

LESSON IV.

Theoretical Lesson—

Chief characteristics of beef, mutton, veal, and lamb and the value of each as an article of diet, with approximate prices of each.

(a) *Demonstration*.—Shepherd's pie (cold meat cookery). Baking powder.

(b) *Practice* in above with revision.

STANDARD VI.

LESSON I.

Theoretical Lesson—

Management of the fire with some special reference to cooking. Economy of fuel. Kitchen ranges and gas stoves. Directions for cleaning same.

(a) *Demonstration*.—Laying a fire and cleaning a stove or cookery utensils.

(b) *Practice* in laying fire, then lighting them, also cleaning cookery utensils as range, pan, basting dishes.

LESSON II.

Theoretical Lesson—

(a) The first principles of cooking flesh foods.

(b) The chief agent in cooking food. Heat. How it may be applied.

Practical Lesson—

Demonstration.—Beef tea. Boiled beef or mutton.

Practice. Making beef tea. Boiling meat and potatoes. Revision of first lesson.

LESSON III.

Theoretical Lesson—

Illustrating of principles in cookery.

- (a.) Cooking by (1) Boiling or steaming.
Directions for same. Suitable joints for boiling.
(a.) Demonstration. Boiled meat or boiled
sea. Pudding. Steamed fish.
(b.) Practice in above with revision.

LESSON IV.

Theoretical Lesson—

Lecture, methods of cooking food.

- (2) Roasting (3) Baking.

- (a.) Demonstration.—Roast meat and baked
fruit, as apples or fruit baked in batter. (Roast
veal if in season).
(b.) Practice in above with revision.

APPENDIX A.

VII.

VIII.

REPORT on a VISIT of some of the COMMISSIONERS to WESTMINSTER TRAINING COLLEGE, LONDON, on March 24, 1897.

APPENDIX A.

VIII.

ANSWERS given by H. A. BENTCHOUX, Esq., M.A., &c., Vice-Principal of the College, before a Deputation of the Commissioners on Manual and Practical Instruction in Primary Schools, Ireland.

The Commissioners were:—Rev. Dr. Wilson, in the Chair; Rev. Dr. Evans; Stanley Harrington, Esq., &c.; W. R. J. Molloy, Esq., &c.

H. A. Bentchoux, Vice-Principal; Joseph M. Cowham, Lecturer on Education and Director of Manual Training, were also present.

1 THE CHAIRMAN.—How is this Training College supported?—From three sources, viz.—(1) By grants received from the Education Department, Whitehall, and South Kensington Science and Art Department; (2) By entrance fees paid by the students; and (3) By grants received from the Wesleyan Education Fund out of the annual collections made in Wesleyan Methodist Churches. The amount received from these three sources for the year 1895-6 was as follows:—1. £4,546 16s. 1d.; 2. £221 7s. 6d.; 3. £286 3s. 10d.

2 Are all the students intended to be teachers?—Yes.

3 How many are at present in residence?—40 second year and 60 first year students.

4 For how many years?—Two.

5 How many practising schools have you?—Four.

6 What are the numbers in average attendance?—Boys' department, 149; Girls' department, 155; Infants' department, 127; Model mixed school, 83.

7 How long has the Training College been in operation?—The schools were opened in 1848 and the college in 1851.

8 How long has manual instruction been given?—In the present workshop for five years.

9 Were you the first Training College that introduced manual training?—Yes, I think we were.

10 Is the work of manual instruction done by your own staff entirely?—Yes. Members of our staff have qualified themselves for the work by attending a course of lessons in technical instruction at the City and Guilds Institute.

11 Do you anticipate that these young men when they go out as teachers will be able to introduce it into their schools?—Yes; they have done so in several cases.

12 Mr. STANLEY HARRINGTON.—Is the teacher who gives the lessons in manual training a specialist in woodwork, or an ordinary teacher, or an artisan?—The teacher is a member of the staff who teaches other subjects in the College, and this manual instruction in addition.

13 What numbers attend the classes in woodwork?—About two thirds of the students.

14 Do the students of the first as well as of the second year attend these classes?—No, not at present; only the second year students. At present we cannot spare time to teach the first year's men.

15 How are the results of this instruction in woodwork tested?—My colleague, Mr. Cowham, who is really responsible for the instruction, has an examination of his own, and gives the men a certificate according to their proficiency at the end of the year, which they consider of the nature of a testimonial, and often forward to managing committees of schools when applying for situations.

16 Do you give prizes?—No.

17 When manual instruction was first started had you much difficulty in introducing it?—No, the

reverses. Mr. Cowham has shown the educational advantages of such instruction, and it has been not only useful but popular from the beginning, and is so now.

18 You have a special workshop for this work. Can you give us some idea of the cost of the building, of the tools, and of the materials?—

(a.) The Room.—Manual instruction was first taught in one of the ordinary College class rooms. This arrangement was productive of some nuisance, and the present shop, which was an old store room, has been adapted for manual instruction. The cost was about £200. The work done does not depend on the expensiveness of the material employed but on other considerations. (b.) The Tools.—The cost of tools for ten men to work at one time would be about £20. (c.) The Materials.—The annual cost of materials is from £6 to £7. In connection with the woodwork there is a course of instruction in cardboard work which is found to be of great value to the students in studying the subjects of mensuration and solid geometry. The men have a dinner group of the shapes of figures through having worked at them as cardboard.

19 Are the students in this woodwork class asked to give demonstrations to the class themselves?—Only occasionally.

20 The principal object in teaching these young men is that they may be able to teach others. How are they to do this if they are not asked to give demonstrations to the class?—They go into the practising schools, where they assist in giving instruction in manual work. They do not so much practice on each other as teach the children in the practising schools.

21 Is experimental science of an ordinary kind taught here?—Yes, under the existing regulations of the Science and Art Department.

22 How is the apparatus provided for this kind of work?—To a great extent it is provided by my colleagues and myself. We teach elementary chemistry here out of the ordinary College expenditure, and the apparatus to a considerable extent is made by ourselves. Of course there are some things which we could not make with accuracy—these we have to purchase; but anything that can be made with advantage, we make on the spot. Apparatus so made seems to appeal more to the minds of the students than that which is bought.

23 Are the elementary science subjects in the Training College compulsory?—They are, practically. In order to get a first class certificate, a man must obtain a certain number of marks. The subjects taken in the College are limited in number. Science, therefore, in most cases, becomes compulsory, as every man desires to secure a first class.

24 Is it your experience when these young men go out into provincial schools, that they teach these

APPENDIX A.
VII.

subjects?—Yes; they have to do so in accordance with the ordinary requirements of the Code.

25. We may assume that drawing is compulsory here?—Yes.

26. Both freeland and model?—Yes; and in the other branches required by the Education Department for obtaining the drawing certificate for teachers.

27. Mr. W. R. J. MOLLOY.—The attendance at the carpentry class is not compulsory?—No and yes. Yes, if the student has chosen to take the subject. Although if a man should be reading for his university degree, he may not find it possible to continue his work in this class.

28. Out of the 60 second year students, about 40 receive instruction?—Yes.

29. What time is given?—An hour weekly on Tuesday afternoons, when the teacher is present, but an extra hour is allotted to each student to go into the workshop. The time when he shall go there is fixed. The course extends over about 33 weeks, and in that time it is possible to accomplish a great deal.

30. Have you ascertained whether any student who has left the College has introduced manual instruction into his school—especially into a rural school? If so, what has been the amount of success acquired?—I am of opinion that great success is achieved in many ways. From six to ten of our students have secured superior appointments as the result of having introduced manual instruction in elementary schools. Four or five of them are now engaged as Directors of Technical Instruction under County Councils.

31. Do these students supplement the instruction given in the College?—Yes; several of them have been to Germany to see the metal work carried on there, and a good number have been to Nizza to study the work carried on under the Sloyd system. A few have been eminently successful, and, in many instances, manual instruction has been introduced into schools and evening classes.

32. The initiative of instruction is altogether obtained here?—Yes.

33. In the demonstration lesson the students worked by freeland drawing, and not to scale?—The drawing which each student makes in class is intended for use in the workshop, where a most careful drawing is made according to scale and kept in a book.

34. Why not give the demonstration lesson in the workshop?—There is no gallery, and no seating accommodation. Better discipline and attention are secured by giving the lesson in the College.

35. I take it that the whole of the instruction is under the direction of Mr. Cowham, the Master of Method?—Yes; though the practical work is done by Mr. Kay, who is one of our regular staff, and is quite competent to undertake this instruction. He is not looked upon as a mechanic or subordinate, but does the work simply because Mr. Cowham has not time to do it himself.

36. In some places an artisan gives the instruction in carpentry; what is your view?—We have a very strong view that the instruction should, if possible, be under the direction of, and actually given by, one of the members of the permanent staff. We do not

think it at all impossible for it to be done in this way. No member of the staff feels it at all degrading to use a plane or a saw, and we do not see why a man who has obtained the highest degree in his University can give him should not do a little manual work.

37. Rev. Dr. EVANS.—I suppose that the students who receive this instruction do not come behind the others in ordinary subjects?—No.

38. They find it helpful rather than otherwise?—Yes.

39. Is there any instruction in this subject given to the students in the practicing schools?—They observe the work done by the head master of each school, and take notes of what they hear and see in the school workshop.

40. Do you regard the objects made as of any value themselves?—No.

41. You regard the work done as of about the same value as a copybook that is written?—Yes.

42. The value was in the doing, not in the thing done?—Yes, the only practical value is in the process of apparatus that they make to illustrate their lesson.

43. Your opinion is that there is really no reason why any training college should not take up this work?—I should say that there is every reason why they should do so. If looked upon as a matter of health, such instruction must be regarded as a very good thing for men engaged in intellectual work.

44. In the case of an ordinary school where one of your students would go to become a master, do you think it would be possible for him to carry out this instruction without any external aid?—We have a case in point in one of our practicing schools where there are eight children composed of boys and girls from Standards I. to VII. The head master there gives instruction in a room attached to the premises. This school is a typical village school.

45. Would such a school require a separate room?—Within the last week or so the Education Department has issued a circular advising that a separate room apart from the school is desirable, and giving the cost of providing such accommodation.

46. Can you suggest, in the case of teachers who have not received instruction of the kind given in your College, how we could get them qualified?—In London teachers become qualified by attending classes at the City and Guilds Institute, or similar centres of instruction.

47. Take an agricultural country like Ireland where there are large numbers of rural schools; can you suggest any means by which it would be possible to qualify the teachers to give this instruction in their schools?—Yes, by means of a peripatetic instructor who might visit the schools in turn.

48. If we divided the country into districts, and employed instructors to visit the schools from time to time, could we secure the purpose that way?—Yes, but it might be better to have a centre to which the teachers could go and receive instruction. If, say, in a town with ten or twelve villages surrounding it, a centre was formed, instruction might be given to these teachers on Saturday. A great number of English teachers devote some portion of Saturday to the requirements of such knowledge.

IX.

DOCUMENTS put in by Mr. ALEXANDER HAMILTON, M.A., Chief of Inspection under the BOARD of NATIONAL EDUCATION in IRELAND.—(See his Evidence, First Report, pp. 1 to 16.)

(1.)

SUBJECTS OF INSTRUCTION IN IRISH NATIONAL SCHOOLS

LIST of the ORDINARY SUBJECTS of INSTRUCTION for PUPILS in IRISH NATIONAL SCHOOLS:—

Reading.
Writing.
Arithmetic.
Spelling.
Grammar.
Geography.

Agriculture. (This subject is obligatory for Boys in all Schools in charge of Male Teachers, except Schools which are situated in large towns.)
Needlework (for Girls.)

APPENDIX A.
IX.

LIST of *OPTIONAL BRANCHES* which may be taught to PUPILS of IRISH NATIONAL SCHOOLS:—

Vocal Music.	Kindergarten. (For Infant Schools and Infant Departments.)
Book-keeping.	
Agriculture. (For Girls, and for Boys in case of Schools situated in large towns.)	

LIST of *EXTRA SUBJECTS* for which *RESULTS FEES* may be earned in IRISH NATIONAL SCHOOLS:—

Drawing.	German.	} For Girls only.
Instrumental Music	Irish.	
Algebra.	Drumming and the use and adjustment of the Sewing Machine.	
Geometry and Mensuration.	Practical Cookery.	
Trigonometry.	Dairying.	
Navigation.	Management of Poultry.	
Mechanics.	Girls' Reading Book and Domestic Economy.	
Hydrostatics and Pneumatics.	Handicraft.	
Light and Sound.	Hygiene.	
Heat and Steam Engine.	Spinning.	
Physical Geography.	Weaving.	
Magnetism and Electricity.	Netmending.	
Botany.	Other Cottage Industries.	
Animal Physiology and Zoology.	Type-writing.	
Inorganic Chemistry.	Shorthand.	
Geology.	Bee-keeping.	
Latin.	Laundry Work (for Girls)	
Greek.		
French.		

The Board's Rules provide that no Results Fees shall be paid for more than two extra subjects (besides Instrumental Music, Drawing, Algebra, and Geometry and Mensuration) in the same school without the special sanction of the Commissioners.

(2)

RETURN showing number and size of SCHOOL FARMS in connection with the BOARD OF NATIONAL EDUCATION.

SCHOOL FARMS.

On 31st December, 1894, there were forty-seven School Farms in connection with the National Board.

Of farms containing less than five acres each, there were	10	Of farms containing more than fifteen acres and not more than twenty acres each, there were	3
Of farms containing five acres and not more than ten acres each, there were	20	Of farms containing more than twenty acres each, there were	5
Of farms containing more than ten acres and not more than fifteen acres each, there were	7		

(3)

RETURN showing the OPERATION of the COMPULSORY ATTENDANCE ACT.

IRISH EDUCATION ACT, 1892.

Number of places to which the Compulsory Attendance provisions of the Act apply,	118	Number of places in which the School Attendance Committee were, in 1896, engaged in enforcing the provisions of the Act,	34
Number of places in which School Attendance Committees existed in 1896,	80		

REVISED PROGRAMME OF EXAMINATION FOR ADMISSION TO TRAINING COLLEGES and for the
CLASSIFICATION AND PROMOTION OF TEACHERS AND QUEEN'S SCHOLARS.

CONDITIONS OF EXAMINATION FOR ENTRANCE TO TRAINING COLLEGES and of CLASSIFICATION and
PROMOTION OF TEACHERS and QUEEN'S SCHOLARS.

The Examination for entrance to Training Colleges will be in Col. 1 of Revised Programme.

THIRD CLASS.

2nd Div. will be awarded to:—

- | | |
|---|-------------------------------------|
| (a) Monitors at the end of fifth year of service, | } on passing Examination in Col. 1. |
| (b) Pupil Teachers of one year's service, | |
| (c) Provisionally classed Teachers, | |

1st Div. will be awarded to:—

- | | |
|---|-------------------------------------|
| (a) Queen's Scholars, conditionally (as a rule) on completing their second year of Training, | } on passing Examination in Col. 2. |
| (b) Pupil Teachers of two years' service, | |
| (c) Untrained Teachers classed III ^a , on the recommendation of the Inspector, for efficient school keeping, | } without Examination. |

N.B.—Queen's Scholars failing to pass in Col. 3 at end of their course, will not be eligible for a Diploma.

SECOND CLASS.

2nd Div. will be awarded to:—

- | | |
|--|-------------------------------------|
| (a) Queen's Scholars, at the end of their course, | } on passing Examination in Col. 3. |
| (b) Untrained Teachers, eligible to be examined for 2nd Class, | |

1st Div. will be awarded to:—

- | | |
|--|--|
| (a) Queen's Scholars, at the end of their course, | } on passing Examination in Col. 3 with <i>Special Distinction</i> . |
| (b) Untrained Teachers, eligible to be examined for 2nd Class, | |
| (c) Teachers already classed II ^a , and eligible for promotion, | |

N.B.—Should a Candidate fail to qualify for II^a at his first attempt, he will be allowed to present himself again for examination, if otherwise eligible.

FIRST CLASS.

2nd Div. will be awarded to:—

- | | |
|--|--|
| (a) Trained Teachers classed II ^a , under the New System, | } after a subsequent period of two consecutive years' highly efficient service (not necessarily in the same school), as reported by Head and District Inspector. |
| (b) Untrained Teachers classed II ^a , exempted under Rule 157 (b) and qualified under Rule 154, | |
| (c) Trained Teachers classed II ^a , on the Old System, and qualified under Rule 154, | } on passing Examination in Col. 3 with <i>Special Distinction</i> . |

1st Div. will be awarded to Teachers classed I ^a , after a subsequent period of	(a) seven consecutive years' highly efficient service, without examination.
	(b) three consecutive years of such service, on passing an examination in a special course for I ^a . (See page 58.)

N.B.—Cases where breaks in continuity of service have arisen through no fault of the Teacher will be specially considered.

NOTES.

- Passing in any particular Subject* shall mean obtaining at least 20 per cent. of the marks assigned to it.
Passing the Examination shall mean obtaining at least 50 per cent. of the total marks assigned to it without failure in any obligatory subject.
- Passing the Examination with Special Distinction* shall mean obtaining at least 65 per cent. of marks, and not less than 20 per cent. on any one subject.
- In the case of Optional Subjects, a similar examination passed in the University of Dublin, or in the Royal University, will be accepted.
- A degree obtained in a British or Irish University will be accepted as exempting Candidates from examination in Part (III) of the course for I^a.

TEMPORARY ARRANGEMENTS.

- All Candidates examined in 1898 for promotion to Second or First Class (either division) will have the option of taking the Old or the New Programme.
- All other Candidates examined in 1898 will be obliged to take the New Programme.

APPENDIX A.
II.

Subject	Mark	(A.)	Mark	(B.)	Mark	(C.)
ARITHMETIC . . .	*100	Simple and Compound Rules, Interest and Annuities, Vulgar and Decimal Fractions, Proportion (Simple and Compound), with a knowledge of the "best method" of solving Simple Interest, Proportion, Stocks, Tare and Loss, Square Root. Review of the Different Rules.	*100	(a) As in Col. 1, with Averages, Permutation, Proportional Parts, Permutation (allomorph), Statistics, Circle Area, Progressions. A knowledge of the theory of the subject will be required. (b) To solve and evaluate the methods of mental calculation.	*100	As in Col. 1, with Algebra, Choice of Signs, Arithmetic, Solution of Problems, Systems of Notation, Logarithms, a knowledge of the theory of the subject will be required. Or As in Col. 2
ALGEBRA, (Optional for Females)	80	Elementary Rules, S.O.M., S.O.H., Functions, Calculation of Square Root, Simple Systems of one or two unknown quantities, and problems leading to these. Simple Equations and easy Quadratic Equations.	100	As in Col. 1, with Simultaneous Equations, Quadratic Equations and Problems, Binomial Theorem, Series, Ratio, Proportion and Variation.	100	As in Col. 1 and 2, with Probability, Theory of Functions and Variations, Induction, and The Binomial Theorem.
GEOMETRY (Optional for Females)	170	Euclid, Books I and II, with any deductions from the Propositions.	170	As in Col. 1, with Euclid, Books III and IV, and any deductions.	170	As in Col. 1 and 2, with Euclid, Book VI, the Deductions of Book I, and any deductions.
MINERALS (Optional for Females)	30	Mineralogy of residual Agents.	30	Mineralogy of the Ores and in sub-classes.	30	As in Col. 1 and 2, with sections and solid contents of the principal Salts.
BOOK-KEEPING, (Optional for Females in Col. 1)	60	General Course, not including Commercial and Company Accounts.	60	General Course, including Commercial and Company Accounts.	60	Super course (optional for those who have passed in Col. 2, with not less than 50 per cent. of marks).
AGRICULTURE, (Optional for Females)	80	Theory of Cultivation; Description of Farm Crops, including Grasses, Cultivation of Cereals, Management of Pastures and Meadows, Cottage Gardening, Farm Live Stock, Care of Cows, Hurdling.	80	As in Col. 1. Description and Use of Farm Implements, Theory of Cropping, Rotation, Manuring, Various kinds of Manures and their mode of application.	80	As in Col. 1 and 2, with Stock, their Formation and character, Diseases of Land, Irrigation and Irrigation Works, Fences, Farm Buildings, Diseases of Farm Crops, Live Stock.
THEORY OF METHOD.	80	Notes of lessons: Method of teaching the ordinary school subjects with Methods and Principles of Infant school teaching and discipline.	100	(a) The general principles of teaching, and the intelligent application of those principles to the teaching of the elementary subjects. Notes of lessons on elementary subjects, with full explanation of the proper method of using these notes. (b) For women only— Exercises—To which a clear comprehension of the principles underlying the system of G.N. and the value of the O.N. is essential.	100	As in Col. 1, with (a) Order of development of mental faculties, Training of intellectual powers, Object, Aim, Material, and of Memory, Imagination, Judgment and Reasoning, with their relation to school work. Formation of habits and character, Laws of Health, in relation to the School, Notes of Lessons, Methods of teaching and the use of notes in Elementary School. (b) For women only— Exercises—Theory and practice.
TEACHING OF TEACHING, 100, 80 (Exercises will be used)	100	(a) Test Lesson to be given in Inspector's presence. (b) Knowledge of the Characteristics of Notes required to be suggested in the school-rooms, and of the method of keeping the Report Book, and Book, and School Register.	100	(a) Test Lesson to be given in Inspector's presence. (b) As in Col. 1.	100	(a) Test Lesson as before. (b) To test classes to work in any division of the Time Table selected by Inspector.
DRAWING, (Optional for the program in Col. 1)	80 80	Free-hand, or Mechanical.	80 80 80	Free-hand, or Object (or outline), or Mechanical.	80 80 80	Free-hand, or Object (outline), or Mechanical.
SEWING, (Optional)	100	Swiss (40)—Drawing, Designing, Top-stitching, Blindwork, Button-hole, Sewing on of Buttons, Patching. English (80)—Knitting of Stock, Hurdling. Coloured and Dressmaking (40)—Make a Shirt, Girls' Pattern, Girls' Dressing Machine for Dressing Pattern with long sleeve—plain and short.	100	Swiss (40)—As in Col. 1, with higher standard of work, to prepare and set in a Dress as in the Shirt. English (80)—Draw Pattern's Skirting with Washed Lin, Machine as in Col. 1, with higher proficiency, Grading. Coloured and Dressmaking (40)—Make a Shirt, Girls' Pattern, Girls' Dressing Machine for Dressing Pattern with long sleeve—plain and short.	100	Swiss (40)—As in Col. 1, with higher standard of work, Machine, Skirting and Machine. English (80)—As in Col. 1, with higher standard of work, Machine, Skirting and Machine. Coloured and Dressmaking (40)—Make a Shirt, Girls' Pattern, Girls' Dressing Machine for Dressing Pattern with long sleeve—plain and short.

* Female Candidates will not be examined in Spanish, Read at first examination, nor in Ocho-Bad, Progression, Algebra, Arithmetic, Confined Spanish, Myology of Medicine, or Languages, or subsequent ones.

(5.)

PROGRAMME OF INSTRUCTION AND EXAMINATION FOR PUPILS OF NATIONAL SCHOOLS.

INFANTS.

1. Pupils apparently of too tender an age to be placed in First Class may be examined as infants in a course of instruction suitable to their capacity, each course to be limited to the first and second sections of the First Book, or of any similar Reading Book approved by the Commissioners, and used in the class,—with appropriate exercises.

FIRST CLASS.

1. *Reading*.—To read correctly, and with intelligence, the lessons in the First Book, Part II., or in any similar Reading Book approved by the Commissioners, and used in the class.

2. *Spelling*.—To spell correctly the words arranged in columns at the head of the lessons in the First Book, or in any similar Reading Book approved by the Commissioners, and used in the class; and to spell phrases or short sentences selected from the lessons in the Reading Book used in the class.

3. *Writing*.—To copy in large hand or round hand, on slate or paper, at the option of the teacher, words or short sentences selected by the Inspector from the Reading Book used in the class, and written on the blackboard by the teacher.

4. *Arithmetic*.—(a) To read and set down numbers up to and including three places of figures. (b) To know the Addition Table. (c) To add on slate or blackboard three numbers, each not exceeding two places of figures.

SECOND CLASS.

1. *Reading*.—(a) To read correctly, and with intelligence, the lessons in the Second Book, or in any similar Reading Book approved by the Commissioners, and used in the class; and to answer simple questions on the words and phrases of the lesson read. (b) To repeat correctly about 80 lines of the poetry contained in the Reading Book used in the class.

2. *Spelling*.—To spell orally the words arranged in columns at the head of the lessons in the Second Book, or in any similar Reading Book approved by the Commissioners, and used in the class; and to spell phrases or short sentences selected from the lessons in the Reading Book used in the class.

3. *Writing*.—To exhibit in copy-books, as a rule, at least sixty pages of the elementary members of any approved series of copy-books, written on slates eight days since the preceding annual inspection—each page to be dated; and to write with fair imitation of the head-line, in presence of the Inspector, any one of those copies selected by him.

4. *Arithmetic*.—(a) To read and set down any number up to and including four places of figures. (b) To know the Addition and Subtraction Tables. (c) To work on slate exercises in Simple Addition of not more than five addenda of three places each, and easy exercises in Simple Subtraction.

5. *Needlework**.—(Girls).—To hem and to knit on two needles.

THIRD CLASS.

1. *Reading*.—(a) To read with ease, correctness, and intelligence, the lessons of the Third Book, or of any similar Reading Book approved by the Commissioners, and used in the class; and to answer simple questions on the words and phrases of the lesson

read. (b) To repeat correctly about 120 lines of the poetry contained in the Reading Book used in the class.

2. *Spelling*.—To write from dictation, on slate or paper, an easy sentence from the Reading Book used in the class.

3. *Writing*.—To exhibit in copy-books, as a rule, at least one hundred pages in round hand or elementary small hand, written on one hundred different days since the preceding annual inspection—each page to be signed and dated by the pupil; and to write with careful imitation of the head-line, in presence of the Inspector, any one of those copies selected by him.

4. *Arithmetic*.—(a) To read and set down any number up to and including six places of figures. (b) To know the Multiplication and Pence Tables. (c) To work on slate or paper sums in all the Simple Rules, and also sums in Addition of Money not exceeding five addenda.

5. *Grammar*.—To be well acquainted with the definitions of the Parts of Speech, and to distinguish the Parts of Speech in an ordinary sentence.

6. *Geography*.—To know the outlines and leading features of the Map of the World.

7. *Needlework*.—(Girls).—Work of previous class, running, top-stitching. To knit, on four needles, a wristlet.

FOURTH CLASS.

1. *Reading*.—(a) To read with ease, correctness, and intelligence, the lessons of the Fourth Book, or of any similar Reading Book approved by the Commissioners, and used in the class; and to be acquainted with the meanings of the words and phrases found in the lesson read. (b) To repeat correctly about 150 lines of the poetry contained in the Reading Book used in the class.

2. *Spelling*.—To write from dictation, on paper, a passage of seven or eight lines selected from the Reading Book used in the class.

3. *Writing*.—To exhibit in copy-books, as a rule, at least one hundred pages in fair small hand, written on one hundred different days since the preceding annual inspection—each page to be signed and dated by the pupil, and to be kept neat and free from blot, and to write with careful imitation of the head-line, in presence of the Inspector, any one of those copies selected by him.

4. *Arithmetic*.—(a) To know multiplication and notation well, and all the more useful arithmetical tables. (b) To perform mentally, easy exercises in Addition and Subtraction; and to work on slate or paper, accurately and speedily, a sum of seven lines in Addition of Money. (c) To work on paper questions in Reduction and Compound Rules of Money, and easy questions in Reduction of Common Weights and Measures.

5. *Grammar*.—(a) To be well acquainted with the definitions of the Parts of Speech, and to distinguish the Parts of Speech readily and intelligently in any ordinary sentence. (b) To be well acquainted with the genders, numbers, and cases of nouns and pronouns, the comparison of adjectives, and the simple moods, tenses, &c., of verbs.

6. *Geography*.—(a) To know the ordinary geographical definitions of the physical divisions of land and water. (b) To be acquainted with the Maps of the World and Ireland. [The Map of the County in which the School is situate may be substituted for the Map of Ireland.]

* S.B.—Whilst fun for needlework is payable in second and higher classes, still it is desirable that all girls in infant and first class should be taught needlework, so as to be prepared for the course prescribed for second class.

APPENDIX A.
IX.

7. *Agriculture*.*—To answer intelligently on the subject of Crops, as treated in the Introduction to Practical Farming.

8. *Needlework*.—(GIRLS).—Work of previous classes with increased proficiency, stitching, plain patching, run and fall seam. A plain plaitform to be made during year, and exhibited at Examination. Knitting the leg of a sock.

FIFTH CLASS.—FIRST STAGE.

1. *Reading*.—(a.) To read with fluency, correctness, and intelligence, the first half of the Fifth Book of Lessons, or of any similar Reading Book approved by the Commissioners, and used in the class; and to be acquainted with the meanings of the words and phrases found in the lesson read. (b.) To repeat correctly about 200 lines of the poetry contained in the Reading Book used in the class.

2. *Spelling*.—To write from dictation, on paper, with correct spelling, an ordinary passage of seven or eight lines from the prescribed portion of the Reading Book used in the class.

3. *Writing*.—(a.) To write, in the presence of the Inspector, a neat legible hand with ease and freedom, and to write a short letter with correct spelling on any simple subject suggested by the Inspector.

(b.) To exhibit in suitable books, as a rule, one hundred pages of well-written school exercises, executed on one hundred different days since the preceding annual inspection—each page to be signed and dated by the pupil.

4. *Arithmetic*.—(a.) To know all the arithmetical tables in the Board's First Book of Arithmetic, and to be able to write out on paper any of them in correct form.

(b.) To work mentally exercises in Simple Addition and Simple Subtraction, and to work on slate or paper, accurately and speedily, a sum of ten lines in Addition of Money.

(c.) To work neatly, on paper, questions in the more useful Compound Rules, and easy exercises in Simple Proportion.

5. *Grammar*.—(a.) To be well acquainted with Orthography and Etymology.

(b.) To parse simple sentences syntactically.

6. *Geography*.—(a.) To understand longitude, latitude, zones, &c.

(b.) To know the Map of Europe and Map of Ireland.

7. *Agriculture**.—In addition to the course prescribed for Fourth Class, to answer intelligently on Cottage Gardening, as treated in the Introduction to Practical Farming.

8. *Book-keeping*.†.—To exhibit in suitable books, the First and Second Sets (Board's Treatise), neatly written out, and to answer questions on these sets.

9. *Needlework*.—(GIRLS).—Work of previous classes with greater proficiency, plain darning, button holes. To be able to cut pattern of shirt for little boy, or of article of girl's underclothing not elsewhere required, and to show specimen garment made. Knitting sock with heel completed.

FIFTH CLASS.—SECOND STAGE.

1. *Reading*.—(a.) To read with fluency, correctness, and intelligence, the second half of the Fifth Book of Lessons, or of any similar Reading Book approved by the Commissioners, and used in the class, and to be acquainted with the meanings of the words and phrases found in the lesson read. (b.) To repeat correctly about 200 lines of the poetry contained in the Reading Book used in the class.

2. *Spelling*.—To write from dictation, on paper, with correct spelling an ordinary passage of seven or eight lines from the Reading Book used in the class.

3. *Writing*.—(a.) To write, in the presence of the Inspector, a neat legible hand with ease and freedom, and to write a short letter on any simple subject suggested by the Inspector.

(b.) To exhibit in suitable books one hundred pages of well-written school exercises, as a rule, executed on one hundred different days since the preceding annual inspection—each page to be signed and dated by the pupil—and at least thirty of these exercises to be letters on simple subjects.

4. *Arithmetic*.—(a.) To know the numeration and notation of Decimals, and all the arithmetical tables, and to be able to write out on paper any of the latter in correct form.

(b.) To perform simple arithmetical questions mentally, and to work on slate or paper, accurately and speedily, a sum of twelve lines in Addition of Money.

(c.) To work neatly, on paper, exercises in Simple Proportion and Practice, and easy questions in Decimal and Vulgar Fractions.

5. *Grammar*.—(a.) To be well acquainted with Orthography and Etymology.

(b.) To know the principal Latin roots, prefixes, &c.

(c.) To parse simple sentences syntactically.

6. *Geography*.—(a.) To understand longitude, latitude, zones, &c.

(b.) To know the Maps of the Continents.

(c.) To be acquainted with the geography of Ireland.

7. *Agriculture**.—In addition to the course prescribed for Fifth Class, First Stage, to answer intelligently on Part II. of Introduction to Practical Farming.

8. *Book-keeping*.†.—To exhibit in suitable books the first four Sets (Board's Treatise), neatly written out, and to answer questions on these Sets.

9. *Needlework*.—(GIRLS).—Work of previous classes with good proficiency, sewing on gathers, herringbone on channel. To be able to cut pattern and to show made specimens of overall, with yoke and sleeves, or of grown boy's shirt. Knitting a sock completed to heel.

SIXTH CLASS.

(In Schools in which the alternative scheme for Girls of Sixth Class, 1st and 2nd Simultaneous, is not carried out.)

(N.B.—Pupils can be presented for examination for results fees (on ordinary or optional subjects or Drawing) only twice in Sixth Class. Pupils presented for the first time will not be examined in Reading, Spelling, or the Recitation of Poetry, beyond the first 200 pages of the Sixth Book or of any similar Reading Book approved by the Commissioners, and used in the class.)

1. *Reading*.—(a.) To read with fluency, correctness, and intelligence, the Sixth Book of Lessons, or any similar Reading Book approved by the Commissioners, and used in the class, and to be acquainted with the meanings of the words and phrases found in the lesson read. (b.) To repeat correctly about 200 lines of the poetry contained in the Reading Book used in the class. (c.) To read with fluency, correctness, and intelligence, a passage previously unseen by the pupil from a Reading Book of equal difficulty to that used in the class.

2. *Spelling*.—To write on paper in a free legible hand, and with correct spelling and punctuation, a paragraph of seven or eight lines dictated from the Reading Book used in the class; also six detached words selected by the Inspector from the same lesson.

3. *Writing*.—(a.) To write a short letter on any simple subject suggested by the Inspector. To exhibit in suitable books one hundred pages of school exercises.

* Agriculture is an obligatory subject for boys of fourth or higher classes, except in schools in large towns; it is optional for girls. If both boys and girls in a mixed school are taught Agriculture the instruction must be given, as a rule, wholly within the ordinary school hours.

† Book-keeping is optional in all schools.

as a rule, written in a good hand on one hundred different days since the preceding annual inspection. Each exercise, as in the preceding classes, to be signed and dated by the pupil.

(b) Specimens of ornamental Penmanship may be included amongst the exercises.

4. *Arithmetic*.—(a) To be expert in mental calculation.

(b) To perform accurately and speedily, on slate or paper, a series of fifteen lines in Addition of Money.

(c) To work neatly, on paper, at first presentation, exercises in Fractions, Compound Proportion, Simple Interest, Discount, and extraction of Square Root. Pupils presented a second time in this class will have to answer on a full course of arithmetic.

5. *Grammar*.—(a) To be acquainted with the principal roots, prefixes, and affixes employed in the formation of English words.

(b) To parse prose and poetry correctly.

6. *Geography*.—(a) To be acquainted with the elements of mathematical and physical Geography.

(b) To draw from memory an outline map of Ireland.

(c) To know the geography of Great Britain and Ireland, India, and the British Colonies.

7. *Agriculture*.—First Examination.—In addition to the course prescribed for Class V., to answer intelligently on Soils, Manures, and Drainage. Subsequent Examination.—to answer intelligently on the Introduction to Practical Farming.

8. *Book-keeping*.—To the end of the Sixth Set (Board's Treatise).

9. *Needlework* (Girls).—(a) To be able to cut out men's shirts and any article of female apparel, and to exhibit satisfactory production in the different branches of plain sewing and knitting.

ALTERNATIVE SCHEME FOR GIRLS OF SIXTH CLASS.

(In Girls' Schools, and in Mixed Schools, in which Female Teachers or Workmistresses are employed.)

[In every National School whose Results year commences on or after the 1st August, 1889, every girl who passes the second stage of the Fifth Class shall devote the remainder of her school attendance chiefly to industrial work. This provision to be optional with Manager, for the Results year, commencing on or after 1st August, 1889, after which Results year the provision shall be obligatory in all National Schools in which Female Teachers or Workmistresses are employed, unless on application of any Manager the Board may for special reasons dispense with this Rule in his school.]†

RESULTS TESTS—FIRST AND SECOND YEARS.

Literary, 5s. 6d.	Reading (which should include Text Books on suitable industrial subjects, and on Domestic Economy, with knowledge of the subject matter),	a. d.
	English Composition (including Letter-Writing on various subjects, which should embrace Geography, Grammar, &c., skill in Penmanship to be taken into account),	2 6 a year
		3 0 ditto.

Industrial, 2s.	Plain Needlework (in its various developments, including Shirtmaking) This must be one of the three industrial subjects to be taken up daily in each of the two years of a Sixth Class Course,	a. d.
	Special Industries—(Classes A and B (as below) any two of which can carry over in the same year, —)	3 0 a year
		3 0 ditto.

Total, 15s. 6d.

INDUSTRIAL PROGRAMME.

CLASS A.—1. Dress Making (Flora). Underclothing-making. 2. Fine Under Clothing; Baby Clothes. 3. Knitting and Crocheting of Jerseys, Caps, Wraps, Vests, Petticoats, Socks, Stockings, Gloves, Slippers, and similar articles. 4. Good repairing of garments, hose, hose and table linen, &c., such as darning (diamond and invisible), fine drawing, re-lining, re-binding, re-fitting, re-buttonholing, turning, also plain garment-making. 5. Clothwork, viz.—Girls' Jackets, Children's Cloaks and Newsmakers, Little Boys' Suits, Banding, Tailor-buttonholing. 6. The washing, carding, spinning, and weaving of wool. 7. Treatment of flax and weaving of linen.

CLASS B.—1. Lace making—Youghal, Limerick, Carrickmacross, Irishman's coat, or other recognized kind. 2. Mountmellick Work—Springing (on Handkerchiefs, &c.), ornamented in rick of Laces. 3. Art Needlework, including Embroidery from Celtic patterns. 4. Gold and Silver Lace Work—Ecclesiastical Embroidery. 5. Haugings—Furniture Embroidery. 6. Glove making. 7. Artificial Flower making. 8. Basket making—Indian Matting—Straw Matting, Straw Chains, Straw plaiting, &c.; other articles produced from Straw, or Wicker. 9. Other kinds of Cottage Industries, such as Wood Carving, Net mending, where local or suitable.

PROGRAMME FOR PUPILS—VOCAL MUSIC.—(HULLAH'S METHOD.)

[Pupils will be examined according to this Programme at Results Examination held on and after 1st March, 1891.]

Second Class.—(a) To name the notes on the staff, and to tell their true names (semibreve, minims, &c.) (b) To sing the natural scale. (c), To sing sweetly, in unison, and in good time and tune, any four approved school songs.

Third Class.—(a) To sing the exercises on any two of Hallah's Sheets of Unisons and Secendies selected by the teacher. (b) To sing sweetly, in unison, and in good time and tune, any six approved school songs.

Fourth Class.—(a) To sing the exercises on Sheet 15, and also those on any other sheet of Thirds selected by the teacher. (b) To read the notes and beat the time of any single measure in music exercises asked by the examiner. (c) To sing sweetly in unison, and in good time and tune, any eight approved school songs.

Fifth Class.—(a) To sing (beating the time correctly while doing so), the exercises contained in

* See note (*) page 40.

† The benefits of this regulation will be applicable also to National Schools which adopted the alternative scheme after the issue of the Commissioners' Circular of the 25th March, 1889, and before the 1st August, 1889, and which are therefore entitled to Results fees under the scheme from the date of their adoption of it.

‡ Generally, it may be represented that in the compulsory subjects of the Sixth Class of present the literary fees that may be earned by girls amount to 15s. 6d., and the industrial 10s. Under the new arrangement the Commissioners decide that the literary fees shall be 5s. 6d., and the industrial 5s. 10s. 6d. They divide into three fees of 1s. 10s. 6d. each; one of these fees, during each of the two years of a Sixth Class Course must be for "Plain Needlework," and the other two fees for any two of the subjects in the above programme, at the choice of the Manager and within the capacity of the teacher.

APPENDIX A.
IX

Sheets 19 and 25, and also those on any one Sheet of of Fourth, and any one of Fifth selected by the teacher. (b.) To sing in two part harmony any three approved school songs.

Sixth Class.—(a.) To sing (beating the time while doing so), the exercises on any Sheet of Sixth, of Seventh, and of Octaves selected by the teacher, and also those on any two of the sheets containing exercises from the Second Part of the Manual. (b.) To exhibit a fair knowledge of the theory of the subject. (c.) To transpose an easy passage from one key to another. (d.) To take first and second parts in at least three harmonised pieces.

N.B.—As pupils advance from class to class, they must exhibit a knowledge of at least two new songs in each class.

MUSIC.—PROGRAMME FOR PUPILS.—VOCAL MUSIC (Doric Sol-Fa.)

[Pupils will be examined according to this Programme at Revell's Examination held on and after 1st March, 1891.]

[A Programme of corresponding character may be adopted, if approved.]

SECOND CLASS.

1. To sing from Examiner's (or Teacher's) pointing on the Modulator the tones of the chord of *Doh* in any easy order.

2. To sing in good time and tune the exercises of the First Step contained in any three pages (selected by the Teacher) of the "Standard," the "School," or the "Educational" charts.

3. To sing sweetly in unison any four approved school songs.

THIRD CLASS.

1. To sing from the Examiner's (or Teacher's) pointing on the Modulator the tones of the chords of *Doh* and *Soh* in any easy order.

2. To sing in good time and tune the exercises of the Second Step contained in any four pages of the charts.

3. To sing sweetly in unison any six approved school songs.

FOURTH CLASS.

1. To Sol-fa from the Examiner's (or Teacher's) pointing on the Modulator simple passages in the major diatonic scale.

2. To sing in good time and tune the exercises of the Third Step contained in any four pages of the charts.

3. To sing sweetly in unison any eight approved school songs.

FIFTH CLASS.

1. To sing from the Examiner's (or Teacher's) pointing on the Modulator simple passages, including transition to first sharp or flat keys.

2. To sing in good time and tune the exercises of the Fourth Step contained in any four pages of the charts.

3. To sing from notes in two or more parts any three approved school songs.

SIXTH CLASS.

1. To sing from the Examiner's (or Teacher's) pointing on the Modulator simple passages in the Minor mode.

2. To sing in good time and tune the exercise of the Fifth Step contained in any three pages of the charts.

3. To answer easy questions on the Minor mode.

4. To join in at least three harmonised pieces.

N.B.—It is desirable that the relation between the Doric Sol-Fa and the Staff Notation be taught to pupils in Sixth Class.

PROGRAMME OF KINDERGARTEN OCCUPATIONS FOR PUPILS IN ORGANIZED INFANTS' SCHOOLS OR INFANTS' DEPARTMENTS.

[A Programme of corresponding character (if approved by the Commissioners) may be adopted.]

INFANTS.—1. *First Gift*.—To perform exercises with coloured balls. To distinguish the colour of each ball. 2. To thread coloured beads. 3. *Second Gift*.—(Forts). 4. *Third Gift*.—Forms of life and knowledge. 5. *Tablet laying* (squares only); Forms of life. 6. Simple exercises in stick-laying. 7. Drawing lines of different lengths on chequered slates.

FIRST CLASS.—1. *Third or Fourth Gift*.—Forms of life and beauty. 2. *Tablet-laying* (forms of life and beauty with squares). 3. *Stick-laying or stick-laying*. 4. To draw simple patterns on chequered slates or paper. 5. To perform patterns for embroidery. 6. Making coloured woollen balls. 7. Cork-work or pen-work.

SECOND CLASS.—1. To draw on chequered copy-books (to be shown at examination). To draw a simple pattern from memory on slates. 2. To embroder a simple pattern in wool or silk. 3. Paper-working—to form an easy pattern. 4. Paper-folding—six forms. 5. Basket-work.

THIRD CLASS.—1. To draw on chequered paper, using coloured pencils occasionally (copy-books to be shown at examination). 2. Pencil-drawing from the flat of simple arrangements of straight lines on paper not chequered. 3. To finish and make up a simple article previously embrodered. 4. Paper cutting—to cut two patterns. 5. Modelling in clay—to imitate any one of the following—an apple, a plum, a pear, a walnut, or a cube, sphere, or cylinder.

The pupils of all kindergarten classes to be able to sing action songs, and to go through calisthenic exercises and simple kindergarten games.

Each kindergarten pupil of first, second, and third classes, to show at least one specimen of each kind of work done by him or herself during the year.

X.

DOCUMENTS put in by Professor THOMAS CARROLL, M.B.A., Agricultural Superintendent, Albert Farm, Glasnevin. (See his Evidence, First Report, pp. 31 to 43.)

(1.)

Return showing School Farms relinquished, being an Extract from Table appearing in Volume VII (page 501), Power Commission Report, 1898-19, as to the Estimated Cost, under the heads specified, of the following Model Farms which were then in operation, but have since been discontinued as such.

Name of Model Farm under system of Management of the Commissioners of National Education	Purchase Money or Free	Fees Expended for Buildings for			Observations
		Schools and Lodgings (including Site)		Agricultural Buildings (Farm Buildings)	
	£ s. d.	£ s. d.	£ s. d.		
*Ashy,	—	4,666 0 0	1,197 19 3	Surrendered, 29. 9 80	
*Ballyborough,	—	2,084 0 0	998 16 0	Do,	1. 11 75
*Ballymorney,	—	986 0 0	469 5 9	Do,	1. 11 81
Bath,	—	616 0 0	555 1 11	Sold,	20. 3 74
*Belfast,	485 1 3	8,953 0 0	5,251 9 11	Do,	5. 6 74
Derisnally,	—	718 0 0	351 17 11	Surrendered, 4. 4 79	
*Dunmanway,	—	4,489 0 0	859 9 4	Sold,	24. 4 76
Farraly,	—	717 0 0	353 6 3	Do,	29. 4 76
Glasnevin,	—	358 0 0	495 19 4	Do,	1. 5 76
Goosinstown,	—	1,365 0 0	669 13 10	Do,	15. 4 76
*Kilkenney,	—	4,036 0 0	3,059 7 6	Do,	28. 9 78
Kyle Park,	—	506 0 0	948 13 10	Re-let,	1876
Liffness,	—	902 0 0	443 14 4	Sold,	26. 3 76
*Lismore,	—	7,554 0 0	3,987 0 7	Surrendered, 29. 9 78	
Mount Trenchard,	—	906 0 0	443 12 1	Do,	1. 11 76
Templedoughan,	—	1,336 0 0	885 6 5	Sold,	31. 3 76
Terion,	—	705 0 0	740 1 0	Surrendered, 1. 11 75	
Woodstock,	—	931 0 0	456 7 0	Re-let,	1876
Dunleavy,	—	370 1 7	—	Commissioners pay the rent. The Teacher uses the land as a School Farm and is recognised as Caretaker.	

*These were connected with Model Schools.

NOTE.—Under Column 2 above there appears to be included, in cases where Model Schools and Model Agricultural Schools are in the same town, expenditure for purposes common to the two establishments. In several instances it happened that the same residence house served for the Agricultural Staff, the Literary Staff, the Popul Teachers, and Agricultural Boarders.

(2.)

PROSPECTUS of the ALBERT NATIONAL AGRICULTURAL TRAINING INSTITUTION, Glasnevin, Dublin.

Patrons.

THE COMMISSIONERS OF NATIONAL EDUCATION IN IRELAND.

Superintendent.

THOMAS CARROLL, Esq., M.B.A., General Superintendent of the Agricultural Department of National Education.

Lecturers.

Theory and Practice of Agriculture and Dairy Management.—THE SUPERINTENDENT; Mr. P. CLUNE, Agriculturist; Mr. A. POOLE WILSON, Dairy Instructor.

Mathematics, Land Surveying, and Literary Subjects.—MR. PATRICK O'REILLY.

Horticulture.—MR. PATRICK GRAY.

Chemistry and Geology.—SIR C. A. CAMERON, M.D., M.B.A., City Analyst, Dublin.

The Diseases of Farm Animals and their Treatment.—C. STEEL, Esq., F.R.C.V.S., late Inspecting Veterinary Surgeon, A.V.D.

Natural History.—E. J. McWHEERY, Esq., M.A., M.D., Professor of Pathology, Catholic University Medical School.

Botany.—P. W. MOORE, Esq., M.B.A., A.L.S., Curator, Royal Botanic Gardens, Glasnevin.

Medical Attendant.—J. DALLAS PRATT, Esq., M.A., M.D., F.R.C.S.T.

Objects.—This Institution is designed to supply instruction—

- (a) In the science and practice of Agriculture to the Sons of Farmers, to National School Teachers, and others.
- (b) In the most improved systems of Dairying.

Training Institution.—The Training Institution is situated on the Farm. The buildings comprise Dormitories, Dining Hall, Lecture and Schoolroom; Museum, Library, and Laboratory; an extensive range of Farm offices and Dairies, fitted up with improved machinery and implements.

Farms and Gardens.—These are situated about three miles north of Dublin, and one mile from the

APPENDIX A. village of Glanevin, and contain about 180 statute acres, distributed as follows:—

- (a.) An area of 4 acres (statute) is cultivated as a small Spade Labour Farm, with a view of exhibiting a proper system of cultivating the vast number of small Farms in Ireland.
 (b.) An area of 22 acres has been set apart as a Farm of intermediate size, with a view of illustrating a system of Farm management adapted to the circumstances of Farmers whose holdings are large enough to give employment to one or two horses.
 (c.) The remaining portion of the land forms the large Farm. (d.) In order that the students should have an opportunity of acquiring a knowledge of Horticultural pursuits, about 3 statute acres are set apart and cultivated as a Kitchen Garden. There are, also, a small Conservatory, Punch House, Vinery, Fruit, Flower Gardens, &c.

The arrangements for affording to the students as large an amount of information as possible upon every branch of the business of farming, including Dairy Husbandry, the Fattening of Cattle the Breeding and Rearing of different kinds of Live Stock, the various operations of field culture, and the permanent improvement of the soil, are such as to place within their reach an opportunity of becoming acquainted with the details of practical agriculture.

The students are called upon to take part, for a limited time, in the performance of every farm operation—for feeding and management of live stock, &c. They are, also, made practically acquainted with the uses of a large collection of improved farm implements and machines, and receive instruction regularly in branches of Husbandry and Smithwork serviceable to farmers.

School Instruction.—The course of instruction imparted by the Literary teacher embraces all the branches which constitute a sound English Education, including English Grammar and Composition, Arithmetic, Book-keeping, Mathematics, Natural Philosophy, Land Surveying, Levelling, and Mapping.

Lectures.—Each of the above named Lecturers of the Institution delivers a course of lectures every session. These lectures are illustrated by means of diagrams, collections of minerals, plants, &c., and chemical apparatus.

AGRICULTURAL SCHOOL.

ONE SESSION EACH YEAR.—1ST MARCH TO 31st OCTOBER.

I.—Free Resident Students.—These are admitted by competitive examination. They are boarded, lodged, and educated at the public expense.

These free places are open to all well-conducted young men throughout the country. Intending candidates should make application to the District Inspector of National Schools early in December in each year.

Some respectable person must certify (1) that the candidate's age is not under 17 years; (2) that he possesses the necessary health and physical capacity for farming; and (3) that he is of good moral character, and possesses the required literary attainments, industrial habits and tastes.

The young men nominated for competition are required to attend an examination in the subjects specified in the annexed programme, held in their respective districts in January of each year.

Travelling expenses of students admitted to the institution will not be paid.

II.—Paying Resident Students.—A limited number of whom are admitted on the following conditions:—

They must possess sufficient literary acquirements to enable them to profit by the lectures of the various Professors. Accordingly, candidates will be required to pass an examination in the following subjects:—

To read and spell with tolerable correctness the words of an easy lesson, and explain the meaning; to know the parts of speech, and write easy sentences from dictation; to write on paper a fair hand; to know the first four rules of arithmetic, and work easy sums in them; to know the general outlines of the Maps of the World, Europe, and Ireland.

Each candidate must submit, for the information of the Commissioners of National Education, an application paper, duly signed by some respectable person who has known him, setting forth his age—which must not be under 17 years—and full particulars as to the school or schools where he received his previous education.

The Fee for the Session of eight months is £15, which is to be paid in advance on entrance.

This payment includes the cost of instruction, board, lodging, washing, and medical attendance.

Students whose conduct has been satisfactory, may, with the sanction of the Commissioners of National Education, enter upon a second Term and such additional Sessions as may be necessary for their training.

The Commissioners will not admit any candidate who had been expelled from a school or college for bad conduct.

Any paying student who shall leave of his own free will before the expiration of the Session, or who shall be removed for misconduct, will be liable to forfeit the fee for the remainder of that Session.

Paying students must conform to all the regulations for the discipline of the establishment. They must take part in all the farm operations. They take their meals at the same table with the free students, sleep in the same dormitories, and receive the same treatment in all respects.

Paying students whose conduct is satisfactory will be allowed to compete among themselves each session for a limited number of free places—one free place being reserved for every five paying students.

Students of the above classes (Free and Paying students) are required to provide themselves on entering the Institution, with two suits of clothes (a strong working suit and a Sunday suit), four towels, two night shirts, a pair of hippers, a hair brush and comb, tooth brush, and other necessary articles.

Candidates seeking admission to the Institution should either have had the small-pox, or have been successfully vaccinated.

Each student on entering the Institution will be required to lodge £2 for necessary repairs to clothing, &c.; any portion of this money not expended will be refunded to him on his leaving the Institution.

III.—Extra Students.—Young men who board and lodge at their own expense in the neighbourhood are permitted to partake of the advantages of the Institution on the following terms:—

1. That while at the Institution they shall be treated in every way like the Resident Class.
2. That they attend punctually, with the intern students, all the lectures delivered at the Institution.
3. That they be amenable to the rules and regulations.
4. That each shall pay, in advance, a fee of £4 for the Session.

IV.—*Teachers*—

Special Sessions of six weeks each are provided for Teachers of National Schools, especially of those with land attached, to enable them to acquire a thorough knowledge of the information contained in the books on agriculture sanctioned by the Commissioners, and in order that they may become acquainted practically with approved systems of farm management and gardening.

No charge is made for residence or instruction. Actual travelling expenses (Third Class Rail), as necessary, are allowed to the teachers attending these Sessions. There are three such Sessions held annually.

Teachers desirous of attending should apply to the District Inspector for a nomination at least a month before the opening of the Course.

During the attendance of a Teacher at one of these Courses, salary and results fees will be allowed to him for the period, provided (a) his school is kept open by an assistant or other competent person, or (b) is closed by the Manager for the ordinary summer vacation during such period. In the latter case the limit of vacation within the year would be extended by a fortnight.

THE DAIRY SCHOOL.

V. *Dairy Pupils*—*females only*—are admitted to the Institution for instruction in Dairy management. They will at all times be under the supervision of an experienced Mistress.

The course of training will embrace—

- I. Instruction in the principles of feeding cows, calves, pigs, and of the treatment of milk and its products, poultry, and their management.
- II. THE PRACTICE OF DAIRYWORK.—The making of butter and cheese in large and small dairies with improved machinery and implements as well as by ordinary appliances.
- III. Instruction in plain Cooking will be given on three days of each week, according to an approved programme, by a skilled teacher; also instruction in plain Needlework.

The fee for the Session of six weeks is £3. This fee covers the expense of board, lodging, washing, and medical attendance.

As the pupils will take part in the work of the Dairy they will be required to bring to the Institution a serviceable dress, apron, &c., which should be of plain washing material. In addition to their dress, &c., Dairy Pupils must bring four towels, a pair of slippers, hair brush and comb, tooth brush, and other necessary articles.

Satisfactory certificates of character must be produced; also a certificate of good health from a medical practitioner.

Each student who deserves it will receive a certificate, bearing testimony to general conduct and proficiency in studies.

There are two Sessions of six weeks each in the year.

VI. *Creamery Managers*.—Creamery managers, or persons about to be engaged in Creameries, are admitted to a Session of five weeks, commencing 1st March. Instruction is given on the Chemistry of Milk, the use of the machines and implements of a Creamery, the feeding of milk cows, calves, and pigs, the keeping of accounts of Creameries, and such other subjects as the Commissioners may determine. The fee for the Session is £3, payable in advance.

GENERAL TIME TABLE for AGRICULTURAL STUDENTS

APPENDIX A.

X.

At 6 o'clock, A.M., The Students rise.

H. M.	H. M.	
From 6 0 to 6 30	A.M.	They dress, and say prayers.
" 6 30 to 7 45	"	Study, except a limited number who, in turn, take part in the feeding, &c., of the Live Stock.
" 7 45 to 8 30	"	Breakfast and interval.
" 8 30 to 9 30	"	Lecture.
" 9 30 to 2 0 P.M.		Students take part in Farm Garden operations.

P. M.		
" 2 0 to 3 30	"	Dinner and Recreation.
" 3 30 to 4 30	"	Agricultural Examination or Lecture.*
" 4 0 to 7 30	"	Literary Instruction.
" 7 30 to 8 0	"	Supper.
" 8 30 to 9 30	"	All Study except a few who, in turn, attend to the Stock.
" 9 30 to 10 0	"	They say prayers, and retire to Dormitories.
" 10 0		Lights are extinguished in Dormitories.

* Religious instruction is effected during this hour on Tuesdays.

In order to render the practical training of the Students as efficient as possible, they are, at busy seasons of the year (such as Spring and Harvest), called upon to give more time to Farm business than is set forth above.

PROGRAMME OF ENTRANCE COMPETITIVE EXAMINATION FOR FREE AGRICULTURAL PUPILS.

- Reading*.—Any passage selected in the Fifth Book of *Leçons*.
- Writing*.—Candidates are expected to write a legible hand with facility.
- Spelling*.—Tested by writing from dictation any passage selected from the Fifth Book of *Leçons*.
- Grammar*.—Parsing sentences in Fourth Book of *Leçons*.
- Geography*.—The general outlines of Mathematical and Local Geography.
- Arithmetic*.—Fractions, Simple and Compound Proportion, Practice, and Interest.
- Book-keeping*.—The Board's Text Book on the subject.
- Mathematics*.—The First and Second Books of *Euclid*, and the *Memoirs of Superfices*.
- Agriculture*.—The Agricultural Text Books published and sanctioned by the Board.

SESSIONS.

AGRICULTURAL STUDENTS.

From 1st March to 31st October.

NATIONAL TEACHERS.

May 1st—A Six Weeks' Course.
 July 1st—Do, Do.
 September 1st—Do, Do.

FEMALE DAIRY STUDENTS.

From 7th January to February 20th.
 From 6th November to December 20th.

CREAMERY MANAGERS.

March 1st—A Five Weeks' Course.

By Order of the Board,

J. C. TAYLOR, }
 M. S. SETTEBOUR, } Secretaries.

Office of National Education,
 Marlboro' Street, Dublin.

RETURN showing Number of Pupils who attended the Albert Agricultural Institution, Glasnevin, from 1881 to 1896

Year	PUPILS ADMITTED.									Observations	
	Male Agricultural Pupils.				Female Dairy Pupils	Queen's Scholars		National Teachers.	Grammar Managers		
	Free	Paying	Return	Total		Mariners' school	Episcopal place				
1881	21	12	.	34	.	76	.	53	.	Travelling expenses of teachers paid for period 1881 to 1889 — dis continued afterwards.	
1882	25	18	.	43	.	74	.	44	79		
1883	24	15	.	39	.	70	.	22	40		
1884	25	17	.	42	40	78	.	18	28		
1885	25	27	.	52	.	.	.	10	.		
1886	25	19	.	44	.	.	.	16	.		
1887	25	24	.	49	{ — } { 20 }	95	.	6	58		
1888	21	17	2	40	{ 30 } { 13 Male } { 21 } { 25 } { 4 } { 18 }	64	98	17	5		28
1889	25	19	1	38	{ 25 } { 18 }	45	93	21	6		30
1890	25	9	2	36	{ 33 } { 28 }	69	99	23	5		25
1891	22	21	3	46	54	168	50	28	43	.	
1892	25	19	.	44	51	153	61	21	.	.	
1893	21	18	.	39	59	96	58	8	.	.	
1894	20	15	1	36	46	100	58	10	.	.	
1895	25	18	2	45	60	97	33	4	.	.	
1896	25	16	.	41	70	96	32	3	.	.	
1897	24	14	.	38	94	100	30	9	4	.	
1898	24	20	2	47	94	100	30	39	15	Expenses of National Teachers allowed this year	

RETURN showing the subsequent occupations of Pupils who attended the Albert Agricultural Institution, Glasnevin, from 1885 to 1895

Occupation.	1885	1886	1895
Farming,	19	18	15
Grammar Managers,	4	5	7
Clerks,	4	2	1
Stewards,	3	1	2
Surveyors,	.	1	.
Gardeners,	.	1	1
Milk Manager,	1	.	.
Teachers,	1	1	1
Auctioneer,	.	1	.
Police,	1	1	.
Emigrated,	8	2	2
Not specified,	7	9	9
Total,	43	43	56

PERSPECTIVES OF THE MUNSTER MODEL AGRICULTURAL AND DAIRY NATIONAL SCHOOLS, CORK.

This Institution, which is, within three miles of Cork, was established for the purpose of affording instruction in the science and practice of agriculture to the sons of farmers and others.

The Commissioners of National Education have the co-operation of the Governors of the Munster Dairy School and Agricultural Institute in watching over the interests of the school, in collecting local funds, and in applying these funds to objects which

they think best calculated to promote agricultural education in Munster.

There are two main objects of the institution:—

- I. The instruction and training of the sons of farmers and others in the best modes of developing the resources of the land.
- II. The instruction of the daughters of farmers and of others in improved modes of dairy management.

Save the development of the cressery system in Ireland a special class for the instruction of cressery managers, or persons about to engage in cresseries, has been instituted. This class is held in the winter season, when such persons can more easily avail themselves of the instruction.

AGRICULTURAL SCHOOL.

On the farm attached to the school, which comprises 156 acres, experiments are carried out on all matters of practical interest in agricultural work, such as the use of manures, cropping of land, feeding of cows (both summer and winter), rearing of calves, &c.

The arrangements for the training of farmers' sons embrace instruction in the science and practice of agriculture, with practical demonstration in the most approved means and appliances used in the cultivation and general management of land, and dairying in all its branches.

In order that the students may become fully acquainted with improved practical husbandry, they are called upon to take part, for a limited time, in the performance of every farm operation—the feeding and management of live stock, &c. They are also made practically acquainted with the uses of a large collection of improved farm implements and machines.

Instruction is also imparted in the general branches of education, including farm accounts, land surveying, levelling, and mapping, &c.

Lectures are given (1) in Agriculture and in Natural History, including the habits of parasites and insects which injure farm crops, &c.; (2) in Chemistry and Geology in their application to agriculture, by a chemist; (3) in the structure and diseases of farm animals, by a veterinary surgeon.

There is one session in each year for agricultural students, from July 30th to December 30th.

The fee for the session is £7, payable in advance to the Commissioners.

Non-resident or extern students are admitted on paying a fee of £2 for an entire session, or 10s. for each separate course of lectures as set forth above.

At the end of each session the students are examined under the direction of the Commissioners of National Education.

Resident or Intern Students.—The students must possess sufficient literary attainments to enable them to profit by the lectures of the various professors. Accordingly, candidates will be required to pass an examination in the following programme:—

To read and spell with tolerable correctness the words of an easy lesson and explain the meaning; to know the parts of speech, and write easy sentences from dictation; to write on paper a fair hand; to know the first four rules of arithmetic, and work easy sums in them; to know the general outlines of the maps of the World, Europe, and Ireland.

Each candidate must submit an application paper duly signed by some respectable person who has known him, setting forth his age—which must not be under seventeen years—and full particulars as to the school or schools where he has received his previous education.

Students whose conduct has been satisfactory may enter upon a second Term, and such additional sessions as may be necessary for their training.

Any student who shall leave of his own free will before the expiration of the session, or who shall be removed for misconduct, will be liable to forfeit the fee for the remainder of that session.

Students are required to provide themselves, on entering the institution, with two suits of clothes (a strong working suit and a Sunday suit), four towels, two night shirts, a pair of slippers, a hair brush and comb, tooth brush, and other necessary articles.

Candidates seeking admission to the school should either have had the smallpox or have been successfully vaccinated.

Extern Students.—Young men who board and lodge at their own expense in the neighbourhood are permitted to partake of the advantages of the institution on the following terms:—

1. That while at the institution they shall be treated in every way like the resident class.
2. That they attend punctually, with the intern students, all the lectures delivered at the institution.
3. That they be amenable to the rules and regulations.
4. That each shall pay in advance a fee of £2 for the session, or 10s. for each separate course of lectures.

DAIRY DEPARTMENT.

The training of young women of the agricultural classes in dairy management includes:—

- I. Elementary instruction in the nature of food and the feeding of milch cows, and in the nature of milk and its products.
- II. Practical demonstrations in the most approved systems of dairy management.
- III. Such other subjects as the Commissioners and Governors of Munster Dairy School and Agricultural Institution may determine.

The making of butter is carried on with ordinary appliances as well as with the most approved, including practical instruction in the factory system, and use of the separator.

There are three sessions, or terms, of two months each in the year, viz:—

- 1st Session commencing first Wednesday in January.
- 2nd Session commencing second Wednesday in March.
- 3rd Session commencing second Wednesday in May.

The fee for each term is £3 5s., payable in advance.

Non-resident or extern students are admitted at a fee of 15s. for the session.

As the pupils will take part in the work of the dairy they will be required to bring to the institution a serviceable dress, apron, &c., which should be of plain washing material. In addition to their dresses, &c., dairy pupils must bring four towels, a pair of slippers, hair brush and comb, tooth brush and other necessary articles.

Some respectable person must certify that the applicant is of good moral character. She must produce a medical certificate of health and freedom from any contagious disease.

Each student who deserveth it will receive a certificate, bearing testimony to general conduct and proficiency in studies.

At the end of each term an examination is held under the direction of the Commissioners of National Education, and scholarships and prizes are awarded to the most meritorious students.

Three scholarships are offered for competition at the end of each session, and will be awarded on total marks of over 75 per cent. gained for:—

- 1st.—Proficiency as tested by examination.
- 2nd.—Butter making.
- 3rd.—General dairy business.
- 4th.—Best note-book.

Other pupils who pass creditably in those subjects, will be awarded such prizes as the examiners may recommend.

N.B.—A scholarship consists of a free place, value £3 3s. 6d., for one session, to be held within

APPENDIX A.
 twelve months from date of examination. Any pupil remaining two sessions within twelve months, and passing the prescribed examination, will be awarded a diploma.

Poultry and Bees.—Instruction will also be given in the rearing and feeding of poultry, and in bee-keeping.

Cookery and Sewing Classes.—Under the superintendence of the Ladies' Committee, classes are held during the dairy pupils' term for instruction in cookery and the economical management of food.

Attendance at these classes is not compulsory and there is no extra fee. Prizes are awarded at the end of the term according to proficiency. They consist of cooking utensils to the value of—first class, 7s. 6d.; second, 5s. These cooking utensils to be selected by the winner of the prize. These prizes are given by the Ladies' Committee, who also give special prizes for tidiness and needle-work.

Members of the Ladies' Committee visit the school regularly during the dairy pupils' term.

CREAMERY MANAGERS.

Creamery Managers, or persons about to engage in creameries are admitted to a session of five weeks, commencing November 1st. Instruction is given on the chemistry of milk, the use of the machines and implements of a creamery, the feeding of milk cows, calves, and pigs, the keeping of accounts in creameries, and such other subjects as the Commissioners may determine.

The fee for the session is £3, payable in advance.

Extern students are admitted on a fee of £1.

The fees named above cover board, lodging, washing, and medical attendance.

In every case of contagious disease or severe illness a student will be sent home, or to a hospital approved of by the medical attendant.

Prospectus, forms of application, &c., can be had on application to the Secretaries, Education Office, Marlboro'-street, Dublin, from the Superintendent, Munster Agricultural School, Cork, L. A. Bonmahon, Esq., Hon. Secretary pro tem to the Governors, Ashgrove, Quininstown, or from W. B. Lacy, Esq., Secretary to the Governors, 15 South Mall, Cork.

TIME TABLE.

AGRICULTURAL SCHOOL.

	H.	M.	H.	M.	
At	6	0	A.M.		Pupils rise.
From	6	0	to	6 30	Dress and devotional exercises.
"	6 30	to	8	0	Study.
"	8	0	to	8 30	Breakfast.
"	8 30	to	9 30		Agricultural lectures.
"	9 30	to	2 0	P.M.	Take part in the practical business of the farm.
"	2	0	to	3 0	Dinner and recreation.
"	3	0	to	7 0	Literary instruction every day, Saturday included.
"	7	0	to	8 0	Supper and free time.
"	8	0	to	9 0	Study.
"	9	0	to	9 30	Devotional exercises and retire to bed.

DAIRY SCHOOL.

	H.	M.	H.	M.	
At	6	0	A.M.		Pupils rise.
From	6	0	to	6 30	Dress, &c., devotional exercises
"	6	30	to	7 0	Take part in milking cows, &c.
"	7	0	to	7 30	In dairy
"	7	30	to	8 0	Make up beds and house business.

	H.	M.	H.	M.		
From	8	0	to	9	0	Breakfast and free time
"	9	0	to	10	0	Lecture: explanation and evaluation.
"	10	0	to	1	0	P.M. Practical demonstrations in dairy, and general dairy business.
"	1	0	to	2	0	Dinner and free time.
"	2	0	to	3	30	Part in dairy and part domestic business, alternately.
"	5	30	to	6	0	Take part in milking cows, &c.
"	6	0	to	6	30	Dairy.
"	6	30	to	7	30	Supper and free time.
"	7	30	to	8	30	Reading on subject of lectures, needlework.
"	8	30	to	9	0	Devotional exercises and retiring to bed.

SESSIONS.

AGRICULTURAL STUDENTS.

From 20th July to 20th December.

CREAMERY MANAGERS.

November 1st.—A five weeks' course.

FEMALE DAIRY STUDENTS.

1st Session commencing	1st Wednesday in January.
2nd "	2nd Wednesday in March.
3rd "	2nd Wednesday in May.

(B.)

MUNSTER DAIRY SCHOOL AND AGRICULTURAL INSTITUTE, CORK.

Returns showing number of pupils who attended the Munster Dairy School from 1881 to 1891.

YEAR.	PUPILS ADMITTED			Total Male and Female Pupils.
	Female Dairy Pupils.	Agricultural Male Pupils.	Creamery Managers.	
1881	39	12		51
1882	36	17		53
1883	54	9		63
1884	65	8		73
1885	74	7		81
1886	89	6		95
1887	81	8		89
1888	75	6		81
1889	89	7		96
1890	91	14		105
1891	93	8		101
1892	96	14		110
1893	96	18	10	116
1894	100	21	10	126
1895	109	14	15	128
1896	110	18	12	128

(7.)

APPENDIX A.
A.

LISTS OF THE FOLLOWING CLASSES OF NATIONAL SCHOOLS:—

I.—AGRICULTURAL TRAINING ESTABLISHMENTS.

County.	Name.	Post Town.	Area of Farm.
Dublin.	Albert Agricultural Training Institution and Model Farm.	Glasnevin.	A. R. P. 178 3 24
Cork.	Meister Derry School and Agricultural Institute.	Cork.	126 3 17

II.—SCHOOL FARMS IN CONNECTION WITH BOARD.

No.	County.	District No.	Roll No.	School.	Post Town.	Area of Farm.
						A. R. P.
1	Armagh.	16	4371	Taniskrey.	Foyntpass.	7 0 20
2	Do.	19	4325	Drambanagher.	Do.	4 0 29
3	Do.	16	12430	Coman.	Killylea.	9 3 29
4	Cavan.	13	6997	Monrigh.	Blacklion.	18 0 0
5	Downgal.	5	9660	Bennamore.	Downgal.	3 2 0
6	Do.	1	4703	Dunlewy.	Derrybeg.	13 0 0
7	Fermanagh.	13	3861	Curric.	Lisbellaw, Eniskillen.	27 2 5
8	Londonderry.	2	8935	Park.	Park, Derry.	11 0 13
9	Monaghan.	18	6821	Comnes.	Monaghan.	48 2 20
10	Do.	18	7308	Berrattoppy.	Seostown.	12 3 19
11	Tyrone.	15	10178	Benbarth.	Benbarth, Moy.	4 3 5
12	Do.	15	9286	Parknash.	Dungannon.	18 0 0
13	Do.	6	8408	Clare.	Cutlodge.	28 1 30
14	Clare.	51	448	Parson.	Limerick.	2 1 10
15	Do.	43	10886	Tubber.	Tubber, Gort.	16 8 35
16	Do.	45	8941	Scrappal.	Mullough, Milltownmalbay.	10 0 0
17	Cork.	59	5700	Clonkeen.	Leap.	27 0 0
18	Do.	59	10703	St. Edmund's.	Dunmoreway.	5 3 20
19	Kerry.	37	7813	Direenawragh.	Kennare.	5 2 0
20	Do.	38	6951	Leasdowne.	Do.	7 0 0
21	Do.	37	8251	Succo.	Succo.	7 2 0
22	Do.	37	8943	Ballinacallige.	Cobhnewen.	11 0 0
23	Do.	38	11748	Glasmore.	Kennare.	4 0 0
24	Limerick.	52	4467	Killaculla.	Brown.	18 0 0
25	Waterford.	49	1830	Mullinahone.	Dungarvan.	5 2 39
26	Do.	48	1710	Glengarrick.	Lismore.	23 3 15
27	Carlow.	47	5935	Garryhill.	Bogardstown.	11 2 59
28	Kilkenny.	49	13420	Clonmore.	Piltown.	8 0 0
29	Do.	53	6189	Piltown.	Do.	7 1 20
30	Do.	49	5251	Woodstock.	Imislodge.	8 2 30
31	Westmeath.	53	931	Ballyvaughan.	Delvin.	6 2 0
32	Galway.	97	13519	Ballyroe.	Williamstown, Castles.	9 1 0
33	Mayo.	98	13793	Carraigora.	Knockmore, Foxford.	10 3 33
34	Do.	20	11141	Killawee.	Starford.	7 1 7
35	Do.	21	1412	Deenastie.	Burninadden, Ballymote.	3 0 18
36	Do.	21	10885	Kinafia.	Swinford.	5 0 0
37	Do.	32	5120	Lebach.	Hollymont, Mayo.	7 3 0
38	Do.	29	5236	Liscakea.	Knockmore, Foxford.	8 0 0
39	Do.	29	4942	Carrowane Palmer.	Blacklion, Ballina.	3 1 0
40	Do.	20	11930	Callow.	Foxford.	1 2 19
41	Do.	21	12650	Newtownbrowne.	Killeshin.	1 2 23
42	Roscommon.	28	10218	North Yard.	Stockstown.	5 1 0
43	Do.	27	12964	Ballymurray.	Ballymurray, Roscommon.	29 0 0
44	Sligo.	19	9669	Doonfin.	Sreen, Sligo.	3 0 0
45	Do.	20	4106	Kilrushwater.	Templeboy, Ballinadere.	11 1 38
46	Do.	12	10473	Calry.	Burn, Sligo.	1 3 0
47	Do.	12	3198	Ballystranaka.	Droghda, Ballinadere.	9 3 25

III.—SCHOOL GARDENS IN CONNECTION WITH BOARD.

No.	County.	District No.	Roll No.	School.	Post Town.
1	Antrim.	84	14563	McKenna Memorial.	Larne.
2	Armagh.	16	9271	Lisdowne.	Markethill.
3	Do.	16	13301	Glenanne.	Glenanne.
4	Do.	16	13813	Tynan.	Tynan.
5	Do.	16	4969	Foyntpass.	Foyntpass.
6	Do.	11	10715	Armonck.	Lurgan.
7	Cavan.	23	12064	Clonowid.	Loughduff.
8	Do.	24	7142	Doonrath.	Costhill.
9	Do.	24	12812	Darby.	Do.

No.	County.	District No.	Roll No.	School.	Post Town.
10	Cavan, . . .	23	11034	Ballyhaise Upper,	Ballyhaise.
11	Do., . . .	23	13458	Lough, . . .	Stendone.
12	Do., . . .	23	11590	Arva (2), . . .	Arva.
13	Do., . . .	28	13303	St. Patrick's,	Gowna.
14	Donegal, . . .	6	5230	Convoy, . . .	Convoy, Raphoe.
15	Do., . . .	6	9035	Drambeg, . . .	Strabane.
16	Down, . . .	11	11618	Brookfield, . . .	Moira.
17	Do., . . .	11	12891	Maunin Village,	Maunin.
18	Do., . . .	11	80	Magheraberry,	Moira.
19	Do., . . .	19	6642	Windsor Hill,	Newry.
20	Do., . . .	19	13651	Glenloghan, . . .	Kirkcub.
21	Londonderry, . . .	3	12391	Railagh, . . .	Diaghaven.
22	Do., . . .	3	8531	Ardelave, . . .	Coleraine.
23	Do., . . .	3	3730	Bobill, . . .	Do.
24	Do., . . .	2A	10803	Carnoney, . . .	Londonderry.
25	Do., . . .	2A	7908	Nyree, . . .	Do.
26	Do., . . .	7	2606	Ballynecagh, . . .	Monymore.
27	Do., . . .	7	11607	Ballynecagh, . . .	Do.
28	Monaghan, . . .	23	10634	Ronan, . . .	Drinmallick, Clonsilla.
29	Do., . . .	18	4796	Urcher, . . .	Monaghan.
30	Do., . . .	18	10574	Bellahay, . . .	Bellahay.
31	Do., . . .	24	8015	Seewy, . . .	Shantonaugh.
32	Fernsagh, . . .	13	9071	Raniskillen Model,	Raniskillen.
33	Do., . . .	13	10840	Tempe, . . .	Tempe.
34	Tyrone, . . .	6	8638	Loughash, . . .	Gorta.
35	Do., . . .	6	11825	Garvagh, . . .	Do.
36	Do., . . .	14	4719	Aughadarragh, . . .	Aughadarragh.
37	Tipperary, . . .	36	3414	Roseros P.L.U., . . .	Roseros.
38	Do., . . .	43	4075	Moyglass, . . .	Killmaclea.
39	Do., . . .	53	1859	Newtown Anner,	Clonmel.
40	Do., . . .	43	4924	Noon, . . .	Thurles.
41	Do., . . .	53	536	Kilosh, . . .	Clonmel.
42	Cork, . . .	56	1847	Castletyone, . . .	Ferney.
43	Do., . . .	58	5657	Adrigole, . . .	Bantry.
44	Do., . . .	60A	12676	Clogheen, . . .	Cathedral, Cork.
45	Do., . . .	59	1274	Rosscarbury Convent,	Rosscarbury.
46	Kerry, . . .	58	1339	Duana, . . .	Kesmore.
47	Do., . . .	57	11313	Portmagee, . . .	Portmagee, Valentia Island.
48	Do., . . .	57	4453	Maatoughy, . . .	Waterville.
49	Do., . . .	57	10045	Lisnat, . . .	Do.
50	Do., . . .	57	9806	Cahersivane, . . .	Do.
51	Do., . . .	39	7660	Beale, . . .	Ballybrinon.
52	Limerick, . . .	52	7322	Bonagut, . . .	Croom.
53	Do., . . .	39	10039	Springmount, . . .	Abbeyfeale.
54	Do., . . .	46	14231	Nagoe, . . .	Pallingreen.
55	Carlow, . . .	47	11347	Kilgreany, . . .	Raghalstown.
56	Dublin, . . .	30	4690	Portrane, . . .	Donaoh.
57	Do., . . .	30	11583	St. Andrew's, . . .	Malshide.
58	Kilkenny, . . .	49	11492	Imstige (2), . . .	Thomastown.
59	Do., . . .	49	14187	Kilnacow, . . .	Kilnacow.
60	King's, . . .	41	14583	St. Bridget's, . . .	Tallamore.
61	Do., . . .	36	5913	Frankford Convent,	Frankford.
62	Do., . . .	36	11203	St. Kieran's, . . .	Clonree, Parsonstown.
63	Do., . . .	41	8868	Ballycowan, . . .	Tallamore.
64	Longford, . . .	28	1430	Clonon, . . .	Granard.
65	Wicklow, . . .	40	11353	Raniskerry, . . .	Raniskerry.
66	Do., . . .	40	1119	Cathlstown, . . .	Do.
67	Do., . . .	40	2376	Arklow, . . .	Arklow.
68	Wexford, . . .	50	13999	Kilnashogue, . . .	Corry.
69	Mayo, . . .	20	9376	Crossmolina, . . .	Crossmolina.
70	Do., . . .	26	1411	Aghish, . . .	Castlebar.
71	Galway, . . .	42	9773	Longbent, . . .	Longbent, Gort.
72	Do., . . .	27	10786	Bally, . . .	Ballymore.
73	Do., . . .	32	13669	Bekan, . . .	Ballymore.
74	Do., . . .	32	11918	Milltown, . . .	Milltown, Teane.
75	Sligo, . . .	12	5337	Tahberrunane, . . .	Skreen.
76	Do., . . .	22	12707	Glenties, . . .	Bayle.
77	Do., . . .	22	5767	Ballymore, . . .	Ballymore.
78	Do., . . .	23	1414	Gurilough, . . .	Ballymore.
79	Do., . . .	22	10844	Claghogue, . . .	Do.
80	Do., . . .	23	8013	Coolback, . . .	Riverstown.
81	Kildare, . . .	44	12883	Calverstown, . . .	Kilcollen.
82	Do., . . .	37	13903	Hewlton, . . .	Clonsilla.

(8)

RETURN showing NUMBER OF PUPILS EXAMINED ON SCHOOL FARMS AND SCHOOL GARDENS.

YEAR.	School Farms.			School Gardens.		
	No. in Concession	Pupils Examined.	Pupils Passed.	No. in Concession	Pupils Examined.	Pupils Passed.
1880,	31	1,212	670	19	325	125
1881,	74	280	423	19	308	157
1882,	73	965	709	19	277	118
1883,	72	884	518	21	249	160
1884,	70	789	638	19	271	151
1885,	63	688	534	24	366	235
1886,	59	637	665	27	507	362
1887,	55	863	613	28	527	390
1888,	51	836	713	30	610	444
1889,	48	829	693	28	460	348
1890,	47	701	583	29	437	327
1891,	48	699	607	28	405	351
1892,	45	666	666	28	546	415
1893,	45	667	681	30	495	419
1894,	44	576	505	30	543	443
1895,	46	641	545	43	433	516
1896,	47	868	771	62	1,007	832

(9)

NATIONAL EDUCATION, IRELAND—AGRICULTURAL DEPARTMENT*

The Commissioners of National Education afford encouragement to the teaching of Agriculture in all rural National Schools by awards of Bonus Fees for the answering of pupils on the Agricultural Text Books, and also upon the practical knowledge of the subject exhibited by the pupils of Schools with Farms and of Schools with Gardens attached, at the special examinations held annually.

In addition to the fees thus provided, the teachers of these Schools with Farms and Gardens receive special results fees determined by the conditions of the farms, gardens, live stock, &c.

In the case of the schools with farms, payments are made to the pupils of Agricultural Industrial Classes for assisting in the cultivation of the farms. The teachers are granted gratuities for training the Agricultural Monitors who supervise these operations.

There are two Agricultural Training Establishments—the "Albert," at Glasnevin, Dublin, and the "Munster," at Cork. They supply instruction in the science and practice of Agriculture, and in the most improved methods of Dairying, Gardening, Cultivation of Trees, Poultry Management, &c.

Twenty-five free scholarships in the Albert Institution are offered annually to youths intended for agricultural pursuits, for open competition throughout the country. These scholarships entitle the successful candidates to eight months' board, residence, and instruction, free of cost.

Paying pupils are received both at the Albert and the Munster Establishments at very moderate charges.

The Commissioners encourage the attendance (on residence) at the Albert Institution of masters of rural National Schools for courses of six weeks in Practical Agriculture. Teachers may qualify at these courses for certificates to earn special fees for practical agricultural instruction of their pupils on the School farms or gardens, and those who teach in Schools to which farms or gardens are not attached may also prepare themselves for teaching the theory of the subject as set forth in the text books. There is no charge for maintenance of National School Masters whilst resident, and actual Travelling Expenses (Third Class Rail) are allowed.

Managers of Creameries and others are received for courses of instruction in Dairying at both the Albert Institution, Glasnevin, and the Munster Institution, Cork. The Admission Fee is a sum merely sufficient to cover boarding expenses.

Results Fees are payable to teachers of National Schools who are qualified to give instruction in Dairying, Poultry Management, and Bee-keeping.

Skilled Female Instructors in Dairy Management are sent to localities in which their services in giving instruction by lectures and practical demonstrations are likely to be of benefit to the people.

Skilled Male Dairy Instructors inspect Creameries for the purpose of advising the managers and of promoting the introduction of the most modern and improved methods of Dairying, including Butter-making, Cheese-making, Analysis of Milk, &c.

The detailed particulars regarding the conditions and regulations affecting these several provisions for extending a knowledge of the principles and practice of Agriculture and of kindred branches are as follows:—

I.

ORDINARY NATIONAL SCHOOLS.

BONUS FEES FOR TEACHING THE THEORY OF AGRICULTURE.

- IV. CLASS.—For answering intelligently on the following subjects, as treated in Part I. of "Introduction to Practical Farming":
Cultivation of Land, of Root Crops, of Grain Crops, of Flax, and of Grasses. 4 0
- V. CLASS.—In addition to the Course prescribed for Fourth Class, for answering intelligently on the following subjects, as treated in Part II. of "Introduction to Practical Farming":
Manuring and Manures; Rotation Cropping; Gardening (including flowers and fruits). 5 0
- VI. CLASS.—In addition to the Course prescribed for preceding Classes, for answering intelligently on the following subjects, as treated in Part III. of "Introduction to Practical Farming":
Live Stock (including horses, cattle, sheep, swine, poultry, and bees). 5 0

* Reported from a pamphlet, "Agricultural Teaching," issued by the Commissioners of National Education.

APPENDIX A.

- VI. CLASS, FIRST EXAMINATION.—In addition to the Courses prescribed for preceding Classes, for answering intelligently on the following subjects, as treated in Part IV. of "Introduction to Practical Farming": The Dairy; Farm Animals; Food of Farm Animals; Agricultural Implements; Grasses, their varieties and qualities, 5 0
- VI. CLASS, SECOND EXAMINATION.—In addition to the Courses prescribed for preceding Classes, for answering intelligently on the following subjects, as treated in Part V. of "Introduction to Practical Farming": Land Drainage, Irrigation; Reclamation; Farm Fences; Pests of the Farm, 5 0

II.

SCHOOLS WITH FARMS ATTACHED.

The Schools must have farms attached for the purpose of illustrating and introducing approved systems of tillage and husbandry. It is expected that the general appearance of the School (and of the Teacher's residence, if any provided) will be characterized by neatness and order.

A teacher appointed to conduct a National School with a Farm attached, must possess a Certificate of attendance at a course of agricultural instruction at the Albert Institution; or a Certificate of competency from some other authority, satisfactory to the Commissioners of National Education, as a condition of payment of the Special Agricultural Fee.

SECTION (a).

THEORY OF AGRICULTURE.

SAME SCALE OF RESULTS FEES AS FOR ORDINARY NATIONAL SCHOOLS

(see above).

SECTION (b).

SCALE OF FEES FOR PRACTICAL PROFICIENCY OF PUPILS as tested on the SCHOOL FARM

- IV. CLASS.—For a knowledge of the cultivation of the ordinary farm and garden crops, and for an intelligent explanation, on the farm, of the course of rotation cropping; the preparation of the ground—tillage, manuring, and subsequent works of cultivation; sowing; thinning, keeping down weeds; the harvesting of grain and green crops; the cultivation of fax; and the cultivation of grass and management of meadows, 4 0
- V. CLASS.—In addition to the foregoing, for a knowledge of the cultivation of garden crops, and for an intelligent explanation, in the garden, of all operations necessary for growing garden crops, including the preparation of ground for gardens; the cultivation of ground, manuring, and different methods of raising garden crops; the management of farmyard manure; and the application of artificial manures, 5 0
- VI. CLASS.—In addition to the foregoing, for a practical acquaintance with the points of live stock, the indications of milking qualities in cows, and the fattening qualities in the animals of the farm; and also for a fair knowledge of the impementage of the farm, of the rearing of young animals, of the feeding and treatment of the animals of the farm, and of poultry, 5 0
- VI. CLASS.—1st Examination.—In addition to the foregoing, for intelligent answering upon dairying; the food of farm animals; agricultural implements; and varieties of grasses, 5 0

- VI. CLASS.—2nd Examination.—For increased proficiency in the foregoing, with extended examination; intelligent answering upon land drainage, and the signs of wetness in land, with general knowledge of the mode in which drainage should be done, irrigation; farm fences; farm pests, 5 0

SECTION (c).

ADDITIONAL AWARDS FOR WELL-MANAGED SCHOOL FARMS.

- For the management of the farm, including the course of cropping, the mode of cultivation and the productiveness of the crops, 60 0
- For the management of home-made manure, taking into account, from the sanitary as well as practical points of view, the position of the manure heap, the way the manure is preserved, and the quantity of it produced and available, 20 0
- For live stock, taking into account the quality of the animals, their suitability for the holding, and the mode of managing them, 30 0
- For farm offices, their cleanliness, good state of repair, and suitability, 20 0
- For the outgate garden, its appearance and method of enclosure, the suitability of the system of cultivation to the wants of the country, and for the productiveness of the crops, 30 0

NOTES.

The Results Fees for Section (a) of the foregoing Programmes are paid on the report of the District Inspector, a copy of whose marks will be sent to the Agricultural Superintendent for his information. The Agricultural Superintendent will give further examination should he deem such expedient, in literary knowledge of the subject. If the classes fail to pass satisfactorily in Section (a), fees for Sections (b) and (c) may be withheld.

Examinations under Sections (b) and (c) will be conducted by the Agricultural Superintendent or such other officer as may be approved of by the Commissioners.

Every pupil who comes forward for examination must have made one hundred attendances in the school during the twelve months ending on the last day of the month preceding the examination in Section (a).

As a general rule, about half an hour per day must be devoted to the instruction of pupils in the course of Practical Agriculture; or, if preferred, the instruction on the farm may be given for three hours on Saturdays. Pupils, however, are not to be employed on the farm during school hours, except at the discretion of the teacher, at the time for recreation.

If no practical instruction is given on the farm no fees are payable under Sections (b) or (c).

The fees accruing under Sections (b) and (c) are payable only to the Teacher who conducts the practical instruction, and is in charge of the farm.

At all the examinations in Section (b) the pupils should show that they can apply the theoretical matter of the book to the practical work of the farm, and the teacher should have constantly before him noted that the School Farm should, as far as possible, illustrate in practice what the book teaches.

Where girls are taught Practical Agriculture on School Farms, a female of mature age should be present during instruction.

The School Farm, where practicable, shall contain not less than three statute acres.

AGRICULTURAL INDUSTRIAL CLASSES.

The Agricultural Industrial Class is to be composed of Boys enrolled in the fifth or sixth classes at the commencement of the results year, but no pupil is to be included who has not made at least 100 attendances within the preceding results period.

For every five pupils thus qualified the Teacher, with the concurrence of the Manager, may select one, who must be enrolled in the sixth class, to act as Agricultural Monitor (Male), subject to the approval of the Agricultural Superintendent upon the occasion of his next visit to the school.

The number of Agricultural Monitors is not to exceed three in any school; and not more than two such Monitors can be recognized if the area of the farm is less than three statute acres. It will be the duty of the Agricultural Monitor to carry out the directions of the Teacher in respect to the work upon which the pupils may be engaged.

The Agricultural Monitors are to be selected as soon as practicable after the commencement of the results year. Should an Agricultural Monitor resign, or should his services be dispensed with, on account of want of diligence, or for other sufficient reason, a successor may be appointed, with the approval of the Agricultural Superintendent, for the remainder of the year.

The names of the Pupils selected for Agricultural Monitorships should be notified to the Commissioners as soon as the appointments have been made.

The Industrial Class is to be engaged, as a rule, at farm work upon three days of the week for one hour each day (outside school hours, or, if convenient, partly during recreation time); or, if preferred, the three hours' work may take place on Saturday. The time for working upon the farm should be at seasons most suitable for the training of the pupils in Agriculture, and should occupy about twenty weeks in the results year.

A sufficient supply of the ordinary hand implements of modern approved construction (spades, forks, hoes, &c.), must be provided for the use of the Industrial Class upon the Farm.

The Agricultural Monitors will be paid at the rate of 4d. per hour, and the ordinary pupils at the rate of 2d. per hour; but no Agricultural Monitor or pupil are to receive payment for more than twenty weeks within the results year.

A Note Book must be kept by each Agricultural Monitor and pupil. This book should contain a daily entry of the time spent at the farm work, and also a weekly entry of the amount earned. It should also contain a brief daily record in respect to the Farm business (weather observations, cropping, harvesting, sales and purchases, cattle, &c.). The Note Book should be checked and signed by the Teacher. A General Attendance Book for the Industrial Class must be kept by the Teacher.*

The payment of the Agricultural Class may be made, in the first instance, out of the Local Funds, either weekly or at other convenient intervals. The amount so paid will be recouped by the Commissioners upon receipt from the Manager, at the close of each quarter, of a Labour List giving names of pupils and Monitors, with the sum earned by each, and his acknowledgment of payment opposite the item. The list should be signed by the Teacher at foot, and certified by the Manager.

A gratuity of Two Pounds is payable to the Teacher for each Agricultural Monitorship, provided the Agricultural Superintendent recommends this award in the annual results report on the school, in respect of the answering of the Agricultural Monitor at the annual examination, and the circumstances of his employment generally. (This payment is irrespective of the Agricultural Results Fee.)

III.

APPENDIX A.

5

SCHOOLS WITH GARDENS ATTACHED.

The Gardens must be situated near National Schools, must exhibit satisfactory specimens of garden culture, and must be used effectively by the Teacher for the practical instruction of the pupils in Cottage Gardening. It is expected that the general appearance of the schoolhouse (and of the Teacher's residence, if any provided) will be characterized by neatness and order.

SECTION (a).

THEORY OF AGRICULTURE.

SAME SCALE OF RESULTS FEES AS FOR ORDINARY NATIONAL SCHOOLS (see page 51).

SECTION (b).

SCALE OF PAYMENT FOR PRACTICAL PROFICIENCY OF PUPILS, as tested on the SCHOOL GARDEN.

- IV. CLASS.—For a practical knowledge of the use of the ordinary implements—the spade, fork, hoe, rake, and for an intelligent explanation of the cultivation of the ground; mowing, disposal of garden refuse, either as food for animals or as compost manure; mode of sowing the ordinary garden seeds; planting and care of the common garden vegetables; methods of keeping down weeds. 4 0
- V. CLASS.—In addition to the foregoing, for a practical knowledge of the cultivation of vegetables, such as cauliflower, peas, beans, onions, parsnips, carrots, rhubarb, celery, lettuce, asparagus, spinach, with an intelligent explanation of the operations necessary for the growing of the crops, seed beds, hot-beds, succession of crops in the garden, rotation cropping; management of farmyard manure, and application of artificial manure. 5 0
- VI. CLASS.—In addition to the foregoing, for a practical knowledge of the management of fruit trees, shrubs, vegetables, flowers, as to situation, soil, &c.; planting, pruning (branching, roots), training, potting, watering, &c.; care of the ordinary garden flowers—annuals, biennials, perennials, bulbs, plants propagated by seeds, cuttings, layers, division of the roots; grafting, budding. A practical knowledge of the management of Swine and Poultry when kept at School Gardens. 5 0
- VII. CLASS.—First Examination.—In addition to the foregoing, for a practical knowledge of the levelling and drainage of ground, trenching, sub-soiling, flowers and shrubs for window gardening, protection of flowers and vegetables during Winter; climbing plants for walls, &c.; plants for rockeries; laying out of gardens, including flower-beds, garden paths, and borders; garden bridges, insect and other pests. 5 0
- VIII. CLASS.—Second Examination.—A critical examination in the preceding Programmes. 5 0

SECTION (c).

ADDITIONAL AWARDS FOR WELL-MANAGED "SCHOOL GARDENS."

1. For the Cottage Garden, its appearance and method of enclosure, the suitability of its management to the wants of the country, and the productiveness of the crops. 20 0

* The necessary Books and printed forms are supplied by the Education Office, gratis.

APPENDIX A.	2 For Pigs, Poultry, or other Live Stock, of a proper description, if well kept, for the mode of preserving the manure made from them; for the Officers—their suitability and condition.	a. d. 10 0
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NOTES.

Examinations in all three Sections of the foregoing programme are conducted by the District Inspector.

If the classes fail to pass satisfactorily in Section (a), fees for Section (b) and (c) may be withheld.

Every pupil who is presented for examination must have made one hundred attendances in the School during the twelve months ended on the last day of the month preceding the examination.

As a general rule, about half an hour a day must be devoted to the instruction of the pupils in the course of Practical Gardening; or, if preferred, the instruction may be given for three hours on Saturdays. Pupils are not to be employed on the School Garden during school hours, except at the direction of the Teacher, during the time for recreation.

If no practical instruction is given to the pupils no fees are payable under Sections (b) and (c).

The fees accruing under Sections (b) and (c) are payable only to the Teacher who gives the practical instruction, and is in charge of the garden.

Girls are eligible to earn fees on the same conditions as boys.

IV.

ALBERT AGRICULTURAL TRAINING INSTITUTION,
GLASNEVIN.

This Establishment is designed to supply instruction—

- (a.) In the science and practice of Agriculture to the sons of farmers, to National School Teachers, and others.
- (b.) In the most improved systems of Dairying and Dairy Management to suitable students.

THE TRAINING INSTITUTION.—The Training Institution is situated on the farm. The buildings comprise dormitories, dining-hall, lecture and school-rooms, museum, library, and laboratory; also an extensive range of farm offices and dairies fitted up with improved machinery and implements.

THE FARMS AND GARDENS. containing about 150 statute acres, are situated about three miles North of Dublin, and one mile from the Village of Glasnevin.

An area of five acres (statute) is allocated as a Spade Labour Farm, with the view of exhibiting the most approved system of cultivating small farms in Ireland.

An area of twenty acres has been set apart with a view of illustrating a system of Farm management adapted to the circumstances of Farmers whose holdings are large enough to give employment to one or two horses.

In order that the Students should have an opportunity of acquiring a knowledge of horticulture and fruit cultivation, about three statute acres are set apart and cultivated as a kitchen, fruit, and flower garden. There are also a small conservatory and peach house, a vineery, &c.

The remaining portion of the land is farmed as a large farm.

Arrangements are made for affording to the agricultural students as large an amount of information as possible upon every branch of the business of farming, including dairy husbandry—the fattening of cattle—the breeding and rearing of the different kinds of live stock—the various operations in field

and garden culture, and the permanent improvement of the soil. The students are called upon to take part, for a limited time, in the performance of every farm operation—the feeding and management of live stock, &c. They are also made practically acquainted with the use of improved farm implements and machines, and receive instruction in Handicraft and Smithwork.

Lectures are given in—

- (1) Scientific Agriculture and Natural History, including the habits of parasites and insects which injure farm crops, &c.;
- (2) Chemistry and Geology, in their application to Agriculture;
- (3) The Structure and Diseases of Farm animals;
- (4) Botany—scientific and practical;
- (5) Practical Agriculture and Horticulture.

Instruction is also imparted in farm accounts, land surveying, levelling, and mapping, &c.

Six classes of Students are admitted:—

- (1)—**FREE INTERN STUDENTS**, admitted by competitive examination. They are boarded, lodged, and instructed, at the public expense.

Travelling expenses of students to the Institution are not paid.

The free places are open to all well-conducted young men throughout the country. Intending Candidates should make application for nomination to the District Inspector of National Schools early in December in each year.

Some respectable person must certify (1) that the candidate's age is not under 17 years; (2) that he possesses the necessary health and physical capacity for farming; and (3) that he is of good moral character, and possesses the required literary attainments, industrial habits and tastes.

The young men nominated for competition are required to attend an examination in the subjects specified in the following Programme, held in their respective districts, in January of each year:—

Reading.—Any passage selected in the Fifth Book of Lessons.

Writing.—To write a legible hand with facility.

Spelling.—Tested by writing from dictation any passage selected from the Fifth Book of Lessons.

Grammar.—Parsing sentences in Fourth Book of Lessons.

Geography.—The general outlines of Mathematical and Local Geography.

Arithmetic.—Fractions, Simple and Compound Proportion, Practice, and Interest.

Book-keeping.—The Board's Text Book on the subject.

Mathematics.—The First and Second Books of Euclid, and the Measurement of Surfaces.

Agriculture.—The Introduction to Practical Farming, sanctioned by the Board.

(2).—**PAYING INTERN STUDENTS** (Fee £15 for eight months' maintenance and instruction—March to October).

They must possess sufficient literary acquirements to enable them to profit by the lectures of the various Professors. Accordingly, candidates will be required to read and spell with tolerable correctness; the words of an essay known and explain the meaning; to know the parts of speech, and write easy sentences from dictation; to write on paper a fair hand; to know the first four rules of arithmetic, and work easy sums in them; to know the general outlines of the Maps of the World, Europe, and Ireland.

Each candidate must submit an application paper duly signed by some respectable person who has known him, setting forth his age—which must not be under 17 years—and full particulars as to the school or schools where he received his previous education.

(3).—**EXTERNAL STUDENTS** (Fee £4 for a Session of eight months—March to October).—Young men who board and lodge at their own expense in the neighbourhood are also permitted to partake of the advantages of the Institution.

(4).—**TEACHERS** (Three Sessions of six weeks—Free).—Teachers of National Schools, especially of schools with farms or gardens attached, or Teachers who may expect to get land for a small farm, or a garden, and who are effective in the discharge of their duties, are selected for a course of instruction in the practice and science of agriculture.

During the attendance of a Teacher at the Albert Institution salary and travelling fees will be allowed to him for the period, provided that (a) his school is kept open by an assistant or other competent person, or (b) it is closed by the Manager for the ordinary vacation during each period. In the latter case the limit of vacation within the year would be extended by a fortnight.

Actual Travelling Expenses (Third Class Rail) are allowed.

(5).—**DAIRY STUDENTS (FEMALES)** (Fee, £3 for Session of six weeks—two Sessions each year). Admitted for instruction in Dairy management. They are at all times under the supervision of an experienced station.

The course of training embraces—

- (a.) Instruction in the principles of feeding cows, calves, and pigs; the treatment of milk and its products; and the management of poultry.
- (b.) The practice of Dairywork. The making of butter and cheese in large and small dairies, with improved machinery and implements as well as by ordinary appliances.
- (c.) Such other subjects as may be determined by the Commissioners of National Education, including needlework, cookery, &c.

The Admission Fee covers the expense of board, lodging, washing, and medical attendance.

Examinations are held at the end of the Sessions, and Certificates awarded to deserving students.

(6).—**CHEESEMAKERS** (Fee, £3 for Interns, £1 for Externs, for Session). Young men employed in, or about to be employed in, creameries are admitted for a five weeks' course of instruction in Dairying, which begins on 1st March each year.

The course of instruction embraces—

- (a.) Dairy Science, including the Analysis of Milk; Buttermaking and Cheesemaking.
- (b.) The preservation of the health and the feeding of dairy cattle.
- (c.) Practical Dairywork.
- (d.) Theory and Practice of Book-keeping and Accounts.

After the expiration of six months from the close of the Session, Certificates will be granted on the following conditions:—

- (a.) That the student has attended the full course; passed a satisfactory examination in general dairy practice; and shown proficiency in the management of appliances for making butter and cheese.
- (b.) That a favourable report has been received from the Creamery Inspector upon the creamery with which the student is connected in respect of cleanliness, tidiness, and efficient working.

V.

MUSKIE DAIRY SCHOOL AND AGRICULTURAL INSTITUTE, COOK.

Local Governors co-operate with the Commissioners of National Education and their officers in watching over the interests of the Institution, which supplies instruction—

- (a.) To the sons of farmers and others in the best modes of developing the resources of the land.
- (b.) To the daughters of farmers and to others in improved modes of dairy management.

On the farm attached to the school, which comprises 126 acres, experiments are carried out in matters of practical interest connected with agriculture, such as the use of manure, cropping of land, feeding of cattle (both summer and winter), rearing of calves, &c.

The arrangements for the training of agricultural students embrace instruction in the science and practice of agriculture, with demonstration in the most approved methods of cultivation of land, and in dairying in all its branches.

In order that the students may become fully acquainted with improved practical husbandry, they are called upon to take part, for a limited time, in the performance of every farm operation—the feeding and management of live stock, &c. They are, also, made practically acquainted with the uses of a large collection of improved farm implements and machines.

Lectures are given in—

- (1) Scientific agriculture and Natural History, including the habits of parasites and insects which injure farm crops, &c.;
- (2) Chemistry and geology, in their application to agriculture;
- (3) The structure and diseases of farm animals;
- (4) Practical agriculture and horticulture.

Instruction is also imparted in farm accounts, land surveying, leveling and mapping, &c.

Six classes of students are admitted:—

- (1).—**INTERNAL STUDENTS** are admitted on payment of a fee of £7 for a Session of five months.
- (2).—**EXTERNAL STUDENTS** are charged a fee of £3 for a Session of five months; or 10s. for each separate course of lectures as set forth above.
- (3).—**DAIRY STUDENTS (FEMALES) INTERNS**—Fee, £3 3s. for Session of two months—three Sessions each year.
- (4).—**DAIRY STUDENTS (FEMALES) EXTERNS** are admitted at a fee of 15s. for the session of two months.

Instruction is given in the making of butter with ordinary appliances as well as with the most approved, including practical instruction in the factory system, and use of the separator.

The training of young women in dairy management includes—

- (a.) Elementary instruction in the nature of food, and the feeding of milch cows; and in the nature of milk and its products.
- (b.) Practical demonstrations in the most approved systems of dairy management.
- (c.) Such other subjects as the Commissioners and the Governors may determine.

At the end of each term an examination is held under the direction of the Commissioners of National Education, and scholarships and prizes are awarded to the most meritorious students. A scholarship consists of a free place, value £3 3s. for one session, to be held within twelve months from date of examination. Any pupil remaining two sessions within twelve months, and passing the prescribed examination, will be awarded a diploma.

APPENDIX A.

Instruction will also be given in the rearing and feeding of poultry, and book-keeping.

Under the superintendence of a Ladies' Committee, classes are held during the dairy pupils' term for instruction in cookery, and the economical management of food.

Attendance at these classes is not compulsory, and there is no extra fee. Prizes are awarded to the pupils at the end of the term according to their proficiency.

(5) and (6).—**CHEESEMAKING MANAGERS** (Fee, £3 for session for Interns—£1 for Externs).—Young men employed in, or about to be employed in, creameries are admitted for a five weeks' course of instruction. The course will include:—

- (a) Dairy science, including the analysis of milk; butter-making and cheesemaking.
- (b) The preservation of the health and feeding of dairy cattle.
- (c) Practical dairywork.
- (d) Theory and practice of book-keeping and accounts.

After the expiration of six months from the close of the session, certificates will be granted on the following conditions:—

- (a) That the student has attended the full course, passed a satisfactory examination in general dairy practice, and shown proficiency in the management of appliances for making butter and cheese.
- (b) That a favourable Report has been received from the Creamery Inspector upon the creamery with which the student is connected in respect of cleanliness, tidiness, and efficient working.

VI.

SCHOOLS IN WHICH FEES FOR DAIRYING MAY BE PAID.

In any National School to which a dairy is attached having a command of a sufficient supply of milk and proper appliances, approved of by the Agricultural Superintendent, dairying may be recognised as an approved extra branch, and a fee of 6s. be paid for each pupil of the fifth class or above passing in the prescribed course, the usual conditions, as to attendances, &c., being complied with. Only one fee is payable for the same pupil. The person giving the instruction in this branch must hold a certificate of competency therein. The course of instruction includes the theory and practice of dairy management, viz.:—

- (a) Dairying as treated in the text books sanctioned by the Commissioners of National Education;
- (b) A knowledge of the use of dairy implements, and of dealing with the products of the dairy;
- (c) Butter making.

VII.

SCHOOLS IN WHICH FEES FOR THE MANAGEMENT OF POULTRY MAY BE PAID.

In any National School to which a poultry yard is attached, and made use of for the practical instruction of the pupils, Poultry Management may be recognised as an approved extra branch, and a fee of 5s. be paid for each pupil of the fifth class, or above, passing in the prescribed course: the usual conditions as to attendances, &c., being complied with. Only one fee is payable for the same pupil.

The following is the programme for examination:—
Fowl—Breeds divided into two classes—sitting and non-sitting varieties—names and descriptions of varieties. Management of fowl—qualities in eggs. Feeding as influencing egg production. Rearing and fattening of chickens.

Pigeons.—Varieties—rearing, feeding, management, and fattening.

Geese.—Varieties—rearing, feeding, management, and fattening.

Ducks.—Varieties—rearing, feeding, management, and fattening.

Preparing the different kinds of poultry for marketing.

VIII.

SCHOOLS IN WHICH FEES FOR BEE-KEEPING MAY BE PAID.

The Commissioners recognise the teaching of Bee Culture as a Cottage Industry, with a single fee of 1s. payable for each pupil of the fifth class or above passing in the prescribed course.

The instruction given must be practical and efficient, and the usual conditions as to attendances, &c., are to be fulfilled to secure payment of fees.

As regards the use of handbooks for teaching the theoretical part of this branch, the managers of the schools may select any handbook suitable for the purpose, provided it has been submitted to the Commissioners and approved of by them. For the present the Commissioners have approved of the following Books for Instruction and Examination in Bee-keeping:—“Stepping stones to Bee-keeping” (Gillies); “Modern Bee-keeping—A Handbook for Cottagers,” “The British Bee-keepers’ Guide Book.”

The programme of instruction is as follows:—

Natural History (elementary) of the Honey Bee. The working bee, the drone, and the queen; characteristics and functions of each. Various classes of hives; points to be considered as the selection of the hive; management in hives. Production of honey; wax; honey made on sections,—on frames, the taking of honey from varieties of hives. Swarming—management of swarms, uniting of swarms, artificial swarming. Management of the queen bee. Precautions adopted by bees for producing and rearing working bees and queen bees. Artificial feeding. Diseases and preventive treatment.

IX.

ITINERANT DAIRY INSTRUCTION.

(a) Skilled Instructors are sent from the Albert and Munster Establishments to places where their services are required. The following conditions are, as a rule, to be complied with:—

1. That a small local Committee shall be formed, who will provide, free of cost, a suitable building (such as school-house, barn, or dairy), where practical instruction can be efficiently given.
2. That a sufficient supply of pure water and means of heating same will be available.
3. That a sufficient quantity of milk or cream will be available.
4. That all necessary steps will be taken to make known throughout the district the intended holding of the Dairy Classes, and an endeavour made to secure the attendance of good classes of students.
5. That an active woman will be engaged by the local Committee to assist the Instructors during classes, for working the Dairy machine.
6. That in each district, where practicable, a Committee of ladies shall be formed; these ladies to have a care over the classes, and see that suitable lodgings for the Instructors are provided.

The Application for the services of Dairy Instructors is to be signed by at least six Farmers who shall undertake to carry out the foregoing conditions.

The Dairy Instructors may also be sent to any district upon an application to be signed by at least six Farmers, for the purpose of visiting the Dairies, pointing out mistakes, and suggesting improvements, and making better with the utensils, or other simple appliances found available.

(b) There are also Male Dairy Instructors, who visit Creameries, &c., and make suggestions as to improved methods of Dairying, Butter-making, &c.

X.

SCHOOL FARMS AND GARDENS.—LEASES BY LIMITED OWNERS—ALSO LOANS FROM BOARD OF PUBLIC WORKS.

Under the Leases for Schools (Ireland) Act of 1881, a limited owner has the power to make a lease of part of his lands, not exceeding a Statute Acre in extent, for a site for a School or Schools and a playground, or other accommodation therewith, for any term not exceeding 999 years, and not less than 99 years, at a nominal rent.

Under an Act of 1886 (47 & 48 Vic., chap. 22), the Commissioners of Public Works in Ireland may make loans for the purpose of assisting any person in the acquisition or improvement of a farm not exceeding 25 acres in extent, connected with a nonvested National School or Training College, to be used for the purpose of Agricultural instruction. Such loans are only made on the recommendation of the Commissioners of National Education. The loans must be repaid at the rate of £5 yearly (principal and interest included) for every £100 borrowed, and the repayments are to be made for 35 years.

APPENDIX A.

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XI.

MEMORANDUM put in by MISS PRENDERGAST, *Directress of Needlework under the BOARD OF NATIONAL EDUCATION IN IRELAND* (see her Evidence, First Report, pp. 61 to 70).

PROPOSED REVISION OF THE "ALTERNATIVE SCHEME."

I beg to submit a short memo on the subject of the proposed revision of the Alternative Scheme.

I am of opinion that the following alterations in its provisions would decidedly tend to make the Scheme more popular.

First—Giving schools the option of taking up only one industrial subject (besides the obligatory plain needlework) and substituting arithmetic for the subject thus dropped. When this is done the time allotted to needlework need not be more than one and a half hours daily. When only one subject is thus taken, I should consider it judicious to limit the teacher's choice to Nos. 1, 2, and 3, Class A, in order to secure that a useful one should be selected. I would make an exception to this rule, however, in cases where a lace-making industry is carried on in the district about a school, and the teacher, understanding the subject, is desirous to teach it.

Second—Giving schools attended by a large Sixth Class the option of teaching the old literary programme to some of the pupils and the Alternative Scheme (either with one industrial subject or with

text) to others. This permission would be welcomed by some Convent Schools where there is a marked difference in the social standing of pupils, such as not infrequently occurs in country towns.

Third—The revision of the Programme by the striking out of a number of subjects, either not taught or taught in an indifferent manner, and the retention of those only which are likely to confer solid benefit upon the pupils instructed in them. The latter I judge to be—Nos. 1, 3, 3, 4, 5, Class A, and 1, 2, 3, Class B. The issue of a syllabus containing precise information as to the amount of knowledge and skill in the various branches expected from pupils of first and of second year would also tend to the simplification of the Scheme.

These modifications and arrangements would, I think, go far to remove the objections urged against the Scheme as it now stands.

M. PRENDERGAST,
Directress of Needlework

XII.

MEMORANDUM put in by MISS A. M. KENNY, *ORGANISING TEACHER under the BOARD of NATIONAL EDUCATION IN IRELAND* (see her Evidence, First Report, pp. 71 to 81).

I. HINTS as to the EXTENSION OF THE KINDERGARTEN to the HIGHER CLASSES.

1. The drawing learned in the Kindergarten might be utilized in Fourth and higher classes, in the designing of patterns for embroidery, crocheted work, wall paper, etc.
2. The basket-making learned in Second class might be extended to the making (where material is convenient) of baskets, chairs, etc.
3. The paper-weaving of Second Class could be extended to the higher classes, to the making of wooden, straw, or rush seats.
4. The proficiency in handwork acquired by the Kindergarten pupils should be utilized in the higher classes, in the production of homestead brass work, leather work, and in fitting districts of fishing nets, and joways, etc.

II. KINDERGARTEN PROGRAMME.—BOYS' SCHOOLS.*

Infant Class.

1. Second gift (Form.)
2. Third gift (Building)
3. Stick-laying (Preparation for drawing)
4. Physical drill.

First Class.

1. Fourth gift (Building)
2. Drawing on checkered slates.
3. Tablet laying
4. Physical drill.

Second Class.

1. Fifth gift (Building)
2. Drawing on checkered paper
3. Basket or net-making.
4. Physical drill.

Third Class.

1. Sixth gift (Building)
2. Freshend drawing
3. Modelling in clay.
4. Elementary designing of patterns.
5. Physical drill.

* This Programme ought to suit boys of any age in the different classes.

III. MODIFICATIONS OF BOYS' PROGRAMME as to each GIRL'S CLASSES.

1. In addition to requirements for Infant Boys, bell and hand hammers might be added for Girls.
2. Performing patterns for embroidery might be added to programme for First Class Girls.
3. Simple embroidery and darning, to programme for Second and Third Class Girls.

A. M. KENNY.
H

MEMORANDUM put in by Miss M. DALL, Professor of Kindergarten, &c., in Baginbun Training College, Dublin. (See her Evidence, First Report, pp. 91-94)

EXTENSION OF THE KINDERGARTEN SYSTEM IN NATIONAL SCHOOLS.

All Teachers to be trained in Kindergarten.

To apply the system successfully, all teachers, male and female, should be trained in Kindergarten principles and methods; the value of these rests partly in the fact that they are useful, not alone in infant school teaching, but in developing improved educational methods in all schools.

Opportunities to be afforded to Teachers for learning system

At least one member of every existing school staff should be qualified to teach Kindergarten; the new programme provides, that in future all female teachers be examined in this subject as part of the usual training course. Teachers already trained, and having no knowledge of Kindergarten, should be afforded opportunities of learning the system by instruction from competent teachers at important centres.

Funds to start Kindergarten.

When necessary, grants, proportional to size of school, to be made for the purpose of supplying suitable material for teaching purposes; and the fees for teaching Kindergarten might be increased to secure more attention to it.

Classification of pupils.

The classification of pupils should be left, within reasonable limits, to teacher's discretion: the present system of grouping infants according to ages is unsatisfactory, as children vary considerably in their rates of mental progress.

Inspection

Individual examination ought to be replaced, in all infant schools and junior classes, by class examination and observation of methods.

Continuity of work essential—Kindergarten to be compulsory

The teaching of Kindergarten should not be allowed, as at present, to cease with purely infant-school instruction. Much of the work is suited to junior classes of senior schools, and continuity being an important factor in true education, it is essential that pupils be led gradually from the simple object teaching of the Kindergarten, to the more abstract work of the higher classes. Very often Kindergarten ceases at the period of a child's education when it becomes most valuable, therefore it ought to be made compulsory till the children have reached the standard now prescribed for Third Class. By this stage the methods of the Kindergarten teaching should be so grafted on to the ordinary school-work, that the transition of the pupil to each work is the natural outcome of the previous method of instruction. I assume that, as at present, Kindergarten shall be taught conjointly with ordinary elementary subjects, and not exclusively, as in purely Froebelian systems.

Occupations selected for extension.

The particular occupations of the Kindergarten that I consider most suitable for what may be termed the transition classes from infant to senior schools, are—

Drawing, paper folding, cutting and weaving, modelling, pricking and sewing, object lessons. In selecting these I was guided by considering which were most likely.

(a.) To preserve and develop the habit of intelligent observation and the manual dexterity that proper Kindergarten training engenders, and which

(b.) Will help the teacher and pupil in the usual educational subjects; and

(c.) Will in after time aid in technical work.

The manner in which occupations may be used to effect these ends is a subject somewhat outside the matter of this paper, but as typical illustrations I submit the following suggestions:—

Drawing.

By making Kindergarten compulsory in the lower classes, we avoid the fault now prevalent of allowing the teaching in this subject to lapse for a period before taking it up and beginning on completely different methods in third class. Drawing should be continuously taught from the simple Kindergarten work, with sharpened squares, to advanced freehand, geometrical and outline drawing of the highest class. The pupils should be led by carefully graded exercises to discard the mechanical aid of squares and lines, to represent the outlines of simple forms from the actual object before them. The elements of geometrical forms can be easily learned in conjunction with the tablet laying of the Kindergarten, and the representation of these by drawing is a comparatively simple step which lays a good foundation for practical geometry.

Paper folding, cutting, and weaving.

Extensions of these occupations may be usefully employed to aid the teaching of cutting out in girls' schools, while they are valuable in themselves in cultivating habits of neatness and manual dexterity.

Pricking and sewing.

Paper sewing and embroidery to be replaced by some occupations in woven goods. Paper weaving might be used to illustrate a first lesson in darning.

Modelling.

Modelling could be used largely in connection with drawing, geography, and object lessons.

Object Lessons.

The object lessons of the infant school should be continued, and develop into lessons suitable to progress of pupil.

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APPENDIX A.
XIV.LETTER ON SLOYD and KINDERGARTEN OCCUPATIONS in the ELEMENTARY SCHOOL.
By F. KARDLEY, Head Inspector of National Schools.

Londonderry.

25th February, 1897

GENTLEMEN,—Adverting to your letter of the 19th instanc, in which you remind me of your communication of the 14th September, 1895, enclosing a copy of Mr. Struther's Report on the above subject, and inviting my observations on that report, I beg now to submit the few remarks I have to make on the subject.

It is unquestionable that the dexterity of hand which the word "Sloyd" implies, can only be acquired in youth, and the point to be considered is how far, and how the Kindergarten system obtaining in the infant schools can be continued during the school-life of the pupil, without injuriously affecting his legitimate progress in all those subjects required and prescribed in an elementary school.

I believe it is conceded by those having most experience, a boy who has been well taught in the Kindergarten department of an infant school, learns to write sooner a good hand, and to be more generally apt to get on quicker in the other branches, than one not so brought up. I mention writing first as more or less kindred to drawing, which in one form or another is practised in all the infant schools where Kindergarten is taught, as the hand and the eye are exercised in both, and it is in this extension of the practice I look for its more valuable results. The use of the rule and compasses in working out the exercises on practical geometry, given in every work on mensuration, would be a course of valuable practical instruction, and after that, the exercises set forth in Rawle's Practical Geometry, or Burchett's, might be gone through. On the occasion of my last visitation I visited a school in Havergate in which the Sloyd system was taught, and found a good deal was done at first in the nature of practical geometry. The pupils, after completing

a set of exercises in plane practical geometry, drew the figures of the tetrahedron, pyramid, cone, &c., on card-board paper, then half cut the paper on the bounding lines of the surfaces, and then neatly made up a set of the regular solid figures by gluing the edges with an overlapping slip of coloured paper. I also saw some wood carving done; nest-box and thorough easiness in every detail were insisted upon, and it struck me as a very thorough training of both hand and eye, without much interfering with the school work.

I thoroughly agree with the remark in Mr. Struther's Report—"Most emphatically it is not desirable that trades should be taught in schools, but we may at least secure such a well-balanced development of the faculties of the pupils as shall place them in a position of substantially greater freedom in the choice of their life-work when they leave school."

There is little or nothing to prevent the extension of the Kindergarten, as practised in our schools, to the more grown departments in connection with them, by utilizing their "handiness" in drawing, to the practical geometry and card-board work before described, and where special interest and taste were manifested in the case of individuals in the first instance, and of classes, as the interest in the occupation spread, to the working in wood—knowledge of house-painting, glazing, and generally such small repairs as can commonly be done by a "handy" man.

I remain, Gentlemen,

Your obedient servant,

F. KARDLEY,

Head Inspector

The Secretaries,

Office of National Education.

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APPENDIX A.
XV.

MEMORANDUM by F. KARDLEY, Head Inspector of National Schools.

A former system of SCIENCE TEACHING under the BOARD of NATIONAL EDUCATION.

In the year 1884 Dr. Clarke was appointed Lecturer on Physical and Applied Science by the Commissioners of National Education (Ireland). For years previously, Dr. Clarke had been in the habit, while District Inspector of Schools, of lecturing on these subjects to the pupils and teachers in the Clonmel Model School. He had an excellent private collection of apparatus and diagrams for illustrating those branches which, generally speaking, embraced what is now known as "Knowledge of Common Things." Shortly after Dr. Clarke's appointment as Lecturer, I was appointed his assistant. His course embraced Applied Science, not merely theoretical. After leaving Clonmel, Dr. Clarke proceeded to Newry, and here he might be said to commence his career under the terms of his new appointment, which prescribed that he should give a set of lectures in each of the Board's Model Schools to the pupils and teachers of those schools, and to such teachers in the surrounding schools as could attend either regularly or occasionally. The Commissioners had given him authority to purchase for each Model School visited and lectured in by him, apparatus to the cost of £10 or £15 for the purpose of illustrating the following subjects:—

Chemistry.—Air and water, coal gas, carbonic acid gas; thermalacids—sulphure, hydrochloric, nitric—salts, chemical combination, more common elementary bodies.

Hydrostatics and Pneumatics.—General laws of liquids and gases—pressure, diffusion, pumps—siphon, hydraulic ram, hydraulic press, specific gravity, water wheels.

Magnetism and Electricity.—The general laws; explanation of natural phenomena; mariner's compass, telegraph, protection of buildings, electro-magnetism; solenoids, batteries.

Light and Sound.—The general laws, as illustrated by experiment; explanation of rainbow, echoes.

Mechanics.—Properties of matter, mechanical powers; relations of cause and effect; construction of a watch, and of a striking clock; centre of gravity; parallelogram of forces; laws of falling bodies.

Geology.—Sedimentary and intrusive rocks—sequence, recognition of order of superposition.

The above is a brief outline of the subjects embraced in the course of lectures which lasted from three to four months, and continued daily during that period. There were three lectures each day generally given in this order.—First lecture from 7 to 8 in the morning, second, 12 to 1; and the third from 3 to 4. On Saturdays the students accompanied Dr. Clarke in visits to objects of scientific or industrial interest in the neighbourhood. Thus, in Newry, one Saturday was spent in viewing the granite quarries on the south side of the town, where a recently-appointed manager had introduced a siphon for drainage purposes, and saving the company a very considerable expenditure in pumping.

H 2

APPENDIX A,
XV.

another Saturday was spent in Beahm, where the action of a turbine was explained, and where was shown for the first time the great advantage arising from the use of expansive steam engines. The laws of heat and their application received very full treatment at his hands, and illustrated as it was by working models—sometimes sectional—the students acquired a vivid and permanent impression of the subjects taught. The *Locomotive Steam Engine* in the same way was thoroughly explained, with an occasional biographical notice of the ingenious men who perfected the machine.

On one occasion a railway trip to Licham and Holywood was organised, to see the works of Messrs. Richardson at the former, where the bleaching process was explained, and at the latter to show the magnesian limestone of Cultra. On another occasion a trip was given to Carrickmacross to see the deposit of gypsum near that town, and to notice the effect of rain water on the limestone in producing caverns and subterranean streams. In every case, the teaching was directed to the explanation of natural existing things—phenomena or usual to the industrial processes—such as tanning, bleaching, dyeing, weaving, &c., and the mechanical and chemical processes involved. Before the termination of his

course of lectures, Dr. Clarke took care to see that the teacher who was to continue the instruction in the subject was competent to handle the simple apparatus which was left behind, to keep it in order, and he was particularly enjoined to be careful in such chemical experiments as exploding a small mixture of hydrogen and oxygen, so that no injury could arise. After leaving Newry, Dr. Clarke proceeded to Galway, where new objects presented themselves, such as the manufacture of paper and the production of saline from kelp, which were there carried on. There was an excursion to Spiddal, where a lead mine was then in work. I mention these instances to show how thoroughly practical the nature of the instruction was—the subject of the lecture not alone being illustrated by class-room experiment, but by reference to industrial processes carried on in everyday life.

F. EARDLEY,
Head Inspector.

27th April, 1897.
To W. R. J. Molloy, Esq.,
Commissioner of National Education,
Ireland.

APPENDIX L
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XVI.

MEMORANDUM by Mr. JAMES FERRAN, Head Master, Model School, Sligo.

MEMORANDA OF LECTURES ON PHYSICAL SCIENCE, delivered in the BOARD'S MODEL SCHOOLS,
by E. S. CLARKE, M.D., M.R.I.A., and his Assistants.

Dr. Clarke, when Inspector of the Clonmel School District in 1849, gave Saturday lectures to the pupil teachers, advanced pupils, and surrounding National teachers, on the Physical Sciences, illustrated by a set of apparatus, his own private property.

About 1854 Dr. Clarke was sent out to lecture in the Model Schools (with increased apparatus and diagrams arranged and produced under his own supervision), and to establish the teaching of Physical Science in different centres, with the aid of two assistants. He remained about two months in each place, his lectures being attended by the school staff, the advanced pupils, and the teachers of the neighbourhood. The subject was afterwards taken up by his trained ex-assistants. Mr. Eardley, now Head Inspector, was his first assistant, followed by James Morris, long out of the service, Charles Morris, late Head Master at Enniskillen, whom I replaced, being then an assistant in Coleraine. I resumed with Dr. Clarke during 1858 and 1859, assisting him in his lectures to the teachers teaching in Marlborough-street and in several of the provincial Model Schools. Returning to Coleraine, I taught the subjects in addition to my ordinary work as school assistant there, and in Ballymore and Ballymena.

The branches dealt with in those days were:—

Practical Mechanics, so as to explain the application of the powers in every-day life, without trigonometrical and abstruse formulae; phenomena of the Mechanical Powers as well, illustrated by Models and Johnston's Diagrams, calculations of their effective results. Hydrostatics, Hydraulics, and Hydrodynamics, using the aforesaid diagrams, supplemented, as usual. A course of elementary Organic Chemistry,

illustrated by experiments. Acoustics, Light and Heat. The Steam-engine. Geology and Mineralogy. Electricity and Magnetism, &c.

Dr. Clarke's aim in his lectures was to make them of practical significance, selecting those subjects which local circumstances rendered most suitable.

Quoting from his report on the Clonmel lectures, he suggests, "that in large towns might be taught Mechanics, Hydrostatics, Pneumatics, and Chemistry, as applied to the Arts, in rural districts, devoted to Agriculture, Agricultural Chemistry, and Geology, in mining districts, Practical Geology and Mineralogy", and in after years he carried out this idea as far as possible. Thus, in the North of Ireland, the processes of bleaching and dyeing were explained and experimented on, in the West Dublin Model School, situated in the heart of the old silk industry, he gave lectures, practically illustrated, on the manufacture and dyeing of textile fabrics, making of mureurs, electrotyping, plating, and gilding.

At the Inchmore Railway Model School he had night classes for the artisans attending the works, at which he treated of Mechanics, Heat and the Steam-engine, Telegraphy; in Ballymore, Agricultural Model School he dealt with Chemistry and Mineralogy in their applications to the soil.

JAMES FERRAN, Head Master,
Model School, Sligo.

27th April, 1897.
To,
W. R. J. Molloy, Esq.,
Commissioner of National Education.

XVII.

MEMORANDUM put in by Mr. A. W. BURY, Director of Manual and Hand and Eye Training to the Birmingham School Board.

BIRMINGHAM SCHOOL BOARD.

COST OF MANUAL TRAINING.

COST OF HAND AND EYE TRAINING.

Standards I to 4 inclusive.

Salary of Director for four years, per child,	0 5
Teacher	0 5
Total Breakdown	1 0
At 1000 per year, per year, per child,	0 5
At 2000 per year, per year, per child,	0 5
At 3000 per year, per year, per child,	0 5
At 4000 per year, per year, per child,	0 5
At 5000 per year, per year, per child,	0 5
At 6000 per year, per year, per child,	0 5
At 7000 per year, per year, per child,	0 5
At 8000 per year, per year, per child,	0 5
At 9000 per year, per year, per child,	0 5
At 10000 per year, per year, per child,	0 5
Total spent per child for four years,	4 0
Provisional charges per child for four years,	0 5
Balance to be made up per child for four years,	3 5
At 1000 per year,	0 5
At 2000 per year,	0 5
At 3000 per year,	0 5
At 4000 per year,	0 5
At 5000 per year,	0 5
At 6000 per year,	0 5
At 7000 per year,	0 5
At 8000 per year,	0 5
At 9000 per year,	0 5
At 10000 per year,	0 5

COST OF MANUAL TRAINING.

Standards 5 and 6.

Salary of Director per boy,	1 0
Teacher,	0 5
At 1000 per year, per year, per boy,	0 5
At 2000 per year, per year, per boy,	0 5
At 3000 per year, per year, per boy,	0 5
At 4000 per year, per year, per boy,	0 5
At 5000 per year, per year, per boy,	0 5
At 6000 per year, per year, per boy,	0 5
At 7000 per year, per year, per boy,	0 5
At 8000 per year, per year, per boy,	0 5
At 9000 per year, per year, per boy,	0 5
At 10000 per year, per year, per boy,	0 5
Total spent per boy,	4 0
Provisional charges,	0 5
Balance to be made up per boy,	3 5
At 1000 per year,	0 5
At 2000 per year,	0 5
At 3000 per year,	0 5
At 4000 per year,	0 5
At 5000 per year,	0 5
At 6000 per year,	0 5
At 7000 per year,	0 5
At 8000 per year,	0 5
At 9000 per year,	0 5
At 10000 per year,	0 5

* Including the Director's salary at £1000 and taking 10 hours per week.
† Only if taken as a class subject in Standards I, 2, and 3.

‡ Could be reduced if starting the work again, 10-12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

XVIII.

DOCUMENTS put in by Mr W. MAYNOR HEALEY, Science Demonstrator to the School Board for London.

(1)

EXPERIMENTAL SCIENCE.

"COURSE H" of the Day School Code of the English Education Department.*

	Standards I and II	Standard III	Standard IV	Standard V	Standard VI	Standard VII
Course H. Experimental and Natural Science, and Chemistry.	Twenty about lessons (including addition, subtraction, multiplication, and division) of which ten are devoted to the experimental work, and ten to the theory of the subject.	Twenty about lessons (including addition, subtraction, multiplication, and division) of which ten are devoted to the experimental work, and ten to the theory of the subject.	Twenty about lessons (including addition, subtraction, multiplication, and division) of which ten are devoted to the experimental work, and ten to the theory of the subject.	Twenty about lessons (including addition, subtraction, multiplication, and division) of which ten are devoted to the experimental work, and ten to the theory of the subject.	Twenty about lessons (including addition, subtraction, multiplication, and division) of which ten are devoted to the experimental work, and ten to the theory of the subject.	Twenty about lessons (including addition, subtraction, multiplication, and division) of which ten are devoted to the experimental work, and ten to the theory of the subject.

* English Education Department. Day School Code (1907), pp. 15, 17.

(2)

SCHOOL BOARD FOR LONDON.

INSTRUCTION IN EXPERIMENTAL SCIENCE.

SYLLABUS for ELEMENTARY NATURAL PHILOSOPHY as defined in the Second Schedule (§ 101 (f) Course H) of the New Code.

METHOD OF INSTRUCTION.

The Science Demonstrator for the Board gives one lesson fortnightly, of about forty minutes duration, to the Boys in the Fifth and higher Standards in each School. These lessons are illustrated experimentally with apparatus belonging to the School.

Between the visits of the Science Demonstrator at least one lesson is given to the same class by the Teachers of each School (as a rule by the Teacher who was present at the Demonstrator's lesson, and who took full notes of it), and a written examination in the subject master of the lesson is also held.

The answers are corrected by the Teacher of the Class, and submitted to the Demonstrator at his next visit to the School.

Courses for Teachers of experimental work in this

subject are held from time to time at the Laboratory, Brompton Street Board School, Commercial Road, E.

SYLLABUS OF LESSONS.

STAGE I.

I.—Measurement. Length. English and French systems. Fractional Lessons. Decimals.

Practical Work—(1) Measure slates, books, &c., in inches and in centimetres. (2) Find dimensions of rods with tape. (3) Measure lengths of sides of triangles, to show sum of two sides always greater than third. (4) Measure circumference of circles by twining cotton several times round cylinders, such as glass bottles, drawing models, and show relation between circumference and diameter is constant for all circles.

APPENDIX A.
XVIII.

II.—The lever and experimental discovery of its law. *Practical Work*.—Construct a series of calcos begs loaded with gravel, shot or sand, so that the weights of bag and contents are as the numbers 1, 2, 3, 4, 5, 6. Hang these by strings from box-wood lever, making six experiments to discover law. Show use of adjusting weight which slides along lever.

III.—The Balance. Mode of using and adjustments. Metric system of weights. *Practical Work*.—(1) Adjust balance by screw nut. (2) Weigh the eight cubes of different wood, and draw lines proportionate to these weights on squared paper.

IV.—The weight of measured volumes of water, and measurement of volume indirectly by balance. *Experiments*.—Find the weight of 10, 30, 30, 40, and 50 c.c., measured from burette to show 1 c.c. of water = 1 gram.

V.—Measurement of area. Experimental proof of rule for multiplication of decimals. *Experiments*.—Mark off rectangular areas on sectional paper, determine its area in square inches and hundredths of a square inch by counting up squares. Show that we get same figures by multiplying length of rectangle by breadth. Meaning of .01 and .001.

VI.—Volume. Selection of unit of volume. Calculation of volume of rectangular solids. *Experiments*.—Make cubic centimetre from soap. Find how many c.c. in 2 cm. cube, and how many in a 4 cm. cube. To count the unit cubes in a rectangular solid we multiply length, breadth and depth together. Use of barrette and graduated cylinder.

VII.—The Specific Gravity Bottle. Relative weight. *Experiments*.—Find weight of water in bottle when full, and hence record capacity of bottle in c.c. Fill bottle with methylated spirit and weigh. Find relative weight of spirit with regard to water. Division of decimals.

VIII.—Relative weights of liquids. *Experiments*.—Weigh bottles full of petroleum oil, vinegar, tea, saltwater, &c. Represent weights of liquids by lines on squared paper. Find weight of 1 c.c. of each.

IX.—Relative Density of Solids by displacement. *Experiments*.—Break up four slate pencils and place in bottle and weigh. Find weight of water necessary to fill bottle now pencils are in it. Find room taken up by pencils. Knowing volume and weight of pencils, find weight of 1 c.c. of slate pencil. Repeat with sand, lead shot, glass beads, pieces of glass tube or rod, &c.

X.—Relative Density of Mercury by displacement, and by direct measurement of volume from barrette. *Experiments*.—Find volume of about 100 grams of mercury (not more) by displacement. Find weight of 12 c.c. of mercury, measured from barrette.

XI.—Discovery of Law of U tube. *Experiments*.—Show water stands to same height in U tubes (a) when both limbs are same size, (b) when limbs are of different bore. Pour mercury into U tube and show it is a form of balance, the mercury surfaces acting as scale pans. Put water in one limb, measure columns of water and mercury that counterbalance one another. Show water column is as many times longer than mercury column, as mercury was found in Lesson X to be heavier than water. Repeat, if possible, with tubes of unequal bore. Into another leg of U tube pour spirit until mercury surfaces are level again, measure columns of water and spirit, and calculate relative density of spirit, compare with result obtained in Lesson VII.

XII.—Air Has Weight. Pressure of Atmosphere. *Experiments*.—Fit barometer flask (round bottom) with tightly fitting india-rubber stopper with glass tube through it. Put about 5 c.c. of water

in flask and boil vigorously; while boiling, close flask with india-rubber tube and glass rod, allow to cool and weigh; open flask and allow air to enter; weigh again. Determine volume of air that has entered and calculate weight of 1 c.c.

XIII.—The Siphon Barometer. Its uses and variations. *Experiments*.—Construct barometer with dry tube and dry mercury. Mount on board with short limb adjustable. Affix scale and mark zero line on board. (Systematic observations of barometer should be made every day and plotted on squared paper.)

XIV.—The Principle of Archimedes. Weight of a body of known volume in air and water. *Experiments*.—Weigh ebony cube in air and water. Show it is lifted up by the weight of water displaced; hence it affords a means of determining the volume of an irregular solid. Weigh the 100 gram weight in water and then in methylated spirit. Show how we can thus get weight of known volume of methylated spirit.

XV.—The Principle of Archimedes. Weight of a body of unknown volume in air and water. *Experiments*.—Weigh glass stopper in air and water, and determine volume and density. Weigh same stopper in methylated spirit, and then find weight and volume of displaced spirit and hence, density. Counterpoise beaker of water, hang in it stopper supported by thread from retort stand, add weights to restore balance.

XVI.—Expansion of Liquids and Gases. General effects of heat on matter. Apparent Expansion. Temperature. *Experiments*.—Fit up flask and tube as a (1) water and (2) an air thermometer. Melt ice and note temperature.

XVII.—Thermometry. Changes in state. Ice, water, and steam. Hidden or latent heat. Conversion of scales. *Experiments*.—Construct an alcohol thermometer; make scale for ordinary ranges of atmospheric temperatures. Determine melting point and boiling point.

XVIII.—Distillation. Purification and separation of liquids. *Experiments*.—Dilute solution of ink, sugar, salt, etc. Distill beer or weak alcohol solution; find density of the distillate.

XIX.—Revision.

XX.—Revision.

STAGE II

Lesson 1.—Evaporation. Condition of atmosphere as regards moisture. Systematic observations. Weather charts. *Experiments*.—Find loss of weight of dish of water day by day. Record graphically. Repeat experiment with larger and more shallow dish.

Lesson 2.—Changes in weight of a bag of seaweed, compared with results of Lesson 1. Wet and dry bulb thermometers. *Experiments*.—Weigh day by day bag of seaweed or roll of flannel. Take readings of Hygrometer, barometer, thermometer, etc.

Lesson 3.—Solution and Solubility. Distinctions between melting and dissolving. Determinations of solubility of common substances. Saturation. *Experiments*.—Ascertain, by experiments with small quantities on watch glasses, what common substances are soluble in water; also show that some substances, such as iron, litharge, and sulphur, though not dissolved by water are soluble in other liquids, such as acids, vinegar, nitric acid. Make saturated solutions of salt, soda, borax, alum, chalk, lime, etc. Evaporate to weighed dish 10 c.c. of each, and find weight of residue. Depict graphically relative solubilities.

Lesson 4.—Crystallization. Saturation alters with temperature. *Experiments*.—Prepare crystals of alum, sugar, soda. Examine small crystals under lens. Determine solubility of alum at 20° C. and at 100° C.

Lesson 5.—Measurement of heat depends on the quantity of matter and temperature for the standard substance water. The heat unit or calorie. Water equivalent of calorimeter. *Experiment.* Place a small copper vessel inside a beaker, but separated from it by loosely packed cotton wool. Mix known quantities of hot and cold water of known temperatures, and determine how many heat units have been absorbed by copper calorimeter. Hence, determine number of heat units absorbed when calorimeter is raised 1° C.

Lesson 6.—Heat capacity or Specific Heat. *Experiment.* By method of mixtures determine number of heat units required to raise 1 gram of Mercury 1° C. Repeat with lead shot, tin tacks, etc. (Allow for capacity of calorimeter.)

Lesson 7.—Comparative Study of the action of Water and Lime, Chalk and Marble. Heat a sign of chemical union. *Experiments:* Add water to lime, chalk and marble, and note all changes; See how many heat units are given to water when 50 grams of lime are mixed with 100 grams of water. Add excess of water to weighed quantities of lime, marble and chalk; dry on oven and determine the water each has permanently taken up.

Lesson 8.—The Lime Kiln and the changes concerned in the manufacture of Lime. *Experiments:* Heat $\frac{1}{2}$ gram of marble or chalk in furnace for half-an-hour. Determine loss of weight. Leave the lime to slake in air for a day, add excess of water, evaporate and weigh.

Lesson 9.—Preparation of the Gas which escapes from the Lime Kiln. Chalk Gas and its Properties. *Experiments:* Heat chalk or marble in iron tube fitted with asbestos plug and delivery tube. Collect gas and examine with lighted match, litmus and lime-water; show it is heavier than air.

Lesson 10.—Comparative study of the action of Acids on Chalk, Lime, and Marble. Preparation of the Gas evolved from Chalk. Its identity with Chalk Gas. *Experiments:* Make experiments with small quantities on watch glasses of the action of acids on above substances. Collect several jars of gas by displacement of air and of water.

Lesson 11.—Weight of Gas obtained from 1 gram of Chalk by action of Acids. *Experiments:* Weigh a flask containing acid and chalk, before and after the evolution of gas.

Lesson 12.—Determination of Volume of Gas evolved from 1 gram of Chalk. *Experiments:* Allow gas evolved to displace water from an aspirator; measure water displaced and note temperature. Repeat experiment to obtain a mean of results.

Lesson 13.—Synthesis of Chalk from Lime and Chalk Gas. *Experiments:* Leave a dish of good lime under a jar of chalk gas over water. After some hours note rise of water and examine the dish for chalk. Pass chalk gas into a large volume of lime water, filter and collect precipitate.

Lesson 14.—To prove the White Precipitate obtained above is Chalk. *Experiment:* Carefully dry 75 grains, and heat in furnace for twenty five minutes. Show loss of weight is about 44 per cent.

Lesson 15.—The action of Chalk Gas on Chalk in the presence of water. *Experiments:* Continue to pass chalk gas into lime water until the precipitate which first forms is redissolved. Boil some of the solution, collect and examine the gas evolved, and identify the white substance precipitated with chalk.

Lesson 16.—Hard Water and its effect on Soap. *Experiments:* Dry some fat taken from the inside of a kettle. Find the percentage loss of weight,

when treated with acid, or by heating. Add soap solution to distilled rain, tap, and artificial hard waters.

Lesson 17.—Formation of Chalk Gas in the lungs. Why does it not accumulate in the atmosphere?

Experiments: Inquire air through one vessel of lime water, and expure it through another.

Lessons 18–30.—Revision.

STAGE III.

Lesson 1.—The hardness of water. Action of hardness on soap. Measurement of hardness. *Experiments:* Make artificial hard water by passing chalk gas into lime water till clear. Red this solution. Add soap solution to it. Make standard soap solution and examine tap, rain, and distilled water with it.

Lesson 2.—Burning of animal and vegetable substances in the air. *Experiments:* Heat weighed pieces of fat and less meat in furnace, also bread, wood, paper; determine ash. Heat some wooden splinters in hard glass tube; burn the charred remains in air on a platinum wire.

Lesson 3.—Heating of mineral substances in air. *Experiments:* Heat weighed quantities of iron, copper, sulphur, and red lead (in bone earth crucible) in furnace.

Lesson 4.—The rusting of iron. The nature of the change. Is the air concerned? Is water concerned? *Experiments:* Leave weighed quantity of iron borings or small French nails to rust in air: after two days dry and weigh again. Leave iron nails under boiled distilled water for several days. Leave a random bag of iron borings suspended in jar of air over water for twenty-four hours.

Lesson 5.—Examination of inactive part of air. Burning of a candle, of phosphorus and of sulphur. *Experiments:* Test inactive part of air with litmus, lighted taper, lime water, etc. Burn candle, phosphorus and sulphur in bell jar of air. Test products of combustion and residual gas in each case as above.

Lesson 6.—The rusting of phosphorus in air. Composition of air. Immaterial nature of heat. *Experiments:* Burn small piece of phosphorus in round bottomed fennec flask, fitted with India-rubber stopper. Weigh before and after. Open under water; measure volume of water entering. Leave a stick of phosphorus to rust slowly in jar of air over water. Examine residual gas.

Lesson 7.—The rusting of copper in air. Identity of residual air with the inactive part found in other experiments. *Experiments:* Pass air from aspirator over a weighed piece of copper gauze strongly heated in hard glass tube. Collect and examine issuing gas. Seal up bright copper gauze in hard glass tube; heat one end of gauze.

Lesson 8.—The inactive part of air obtained from rusting iron experiment (Lesson 4) will not rust copper. *Experiments:* Prepare apparatus of inactive air by rusting iron. Pass gas slowly over heated copper gauze. Put bag of filings to rust in air in which phosphorus has been burnt.

Lesson 9.—Active part of air. Synthesis of air. *Experiments:* Heat red lead in iron tube with asbestos stopper. Collect the active part, and examine its properties. Fill up a jar in which iron has rusted with this gas, and examine the mixture.

Lesson 10.—Preparation and Examination of Active part of Air. *Experiments:* Prepare several jars of oxygen by heating a mixture of potassium chlorate and manganese peroxide. Burn sulphur, phosphorus, iron wire in the case. Examine products of combustion. Show identity with those obtained in Lesson V. The names oxygen and nitrogen.

APPENDIX A.

1911.

- APPENDIX A.
XVIII.
- Lesson 11.**—The burning of Brim and of Charcoal in air or oxygen. Signs of chemical union. *Experiments.* Pass current of air over brim heated in glass tube. Examine the gases evolved. Pass oxygen from aspirator over charcoal heated in boat; examine gas evolved. Show identity of charcoal rust with chalk gas.
- Lesson 12.**—Action of acids on metals. Examination of gases evolved. Burning of "inflammable air." *Experiments.* Try action of nitric, sulphuric, and hydrochloric acid on iron, copper, lead, zinc. Collect several pairs of "inflammable air" and examine.
- Lesson 13.**—Preparation and identification of the liquid formed in Lesson 12 with water. *Experiments.* Burn inflammable air against well

cooled surface. Collect liquid formed. Find boiling point and freezing point. Hydrogen.

- Lesson 14.**—Is water hydrogen rust that is oxide of hydrogen? The removal of oxygen from oxide of copper. *Experiments.* Pass well dried hydrogen from aspirator over weighed oxide of copper in boat (heated). Collect water formed in calcium chloride tube, weighed before and after experiment. Determine composition of water, and percentage of copper in copper oxide.
- Lesson 15.**—Analysis of water by heated iron. *Experiments.* Pass gentle current of steam over iron contained in heated iron tube. Collect gas evolved and show its identity with hydrogen. Weigh the iron before and after experiment.
- Lessons 16-20.**—Review.

(3.)

Syllabus of a Course of Domestic Science: the Science underlying Domestic Economy and Hygiene* (with suggestions for Experimental Work), by W. MAYNOR HILLIER, B.Sc., F.C.S., Associate of the City and Guilds Institute for the Advancement of Technical Education.

It is intended that the instruction in this subject should be based on experiments performed, as far as possible, by the children themselves. The applications to the home should be the results of the discoveries made in the course of experiments, which should be undertaken in a spirit of inquiry or research.

The suggestions for practical work are intended to indicate the kind of experiments that are desirable, and not in any way to limit or define what these shall be.

The object of the course is to inculcate habits of accuracy in reasoning and manipulation, as well as to teach the laws governing domestic management.

The course is divided into three parts which should be taken in order.

PART I.

The measurement of length; English and metric systems; the meaning of standards or units of measurement; the decimal notation. Addition and subtraction of decimals experimentally proved. *Practical Work.*—With a ruler, with inches in tenths and centimetres in tenths, measure lengths of convenient objects, and find connection between inches and centimetres. Place two lines of definite length, say 4.8 cms. and 9.7 cms., end on end, ascertain that the whole line thus formed is 14.5 cms., and that decimals may be added and subtracted like ordinary numbers. Compare circumferences and diameters of cylinders, &c.

Experimental discovery of law of see-saw. Metric system of weights. *Practical Work.*—Construct a series of calico bags loaded with gravel, shot or sand, so that the weights of bag and contents are as the numbers 1, 2, 3, 4, 5, 6. Hang these by strings from hinged lever, making six experiments to discover law. Show use of adjusting weight which slides along lever.

The balance. Mode of use and adjustments. *Practical Work.*—(1) Adjust balance by screw nut, (2) weigh cubes of different wood, and draw lines proportionate to these weights on squared paper.

Measurement of area. Experimental proof of rule for multiplication of decimals. *Practical Work.*—Mark off rectangular areas on sectional paper; determine its area in square inches and hundredths of a square inch by counting up squares. Show that we get same figures by multiplying length of rectangle by breadth. Meaning of .01 and .001. Measurement of area of cardboard by weighing.

Measurement of volume. Selection of unit. Measuring vessels—graduated cylinder, burette, pipette, and measuring flask. Volume by displacement of water. *Practical Work.*—Make one cubic centimetre from soap, cheese, clay, &c. Find volume

of slate pencils by dipping into burette half full of water. Measure water displaced from any vessel with suitable aperture on immersion of a solid body.

The weight of measured volumes of water, and measurement of volume indirectly by balance. *Practical Work.*—Find the weight of 10, 20, 30, 40, and 50 c.c., measured from burette to show that 1 c.c. of water weighs nearly 1 gram.

Density or comparison of weights of equal volumes of ordinary liquids employed in household. *Practical Work.*—Find volume of glass-stoppered bottle by the weight of water it holds; find weight of same bottle filled with mixtures of milk and water, oil, vinegar, tea, coffee, salt, water, beer, &c. Find weight of one cubic centimetre of each of these liquids.

Floating bodies lactometer, hydrometer. Adulteration of liquid foods (milk, &c.) detected. *Practical Work.*—Show what weight of water or other liquid displaced by a lactometer, or any floating body, is equal to the weight of the floating body. Make a salt solution in which a new laid egg will float; find density of solution by hydrometer. Test mixtures of milk and water with lactometer.

General effects of heat on matter. *Practical Work.*—Make bright iron wire red hot and observe all changes that have occurred. Heat pieces of magnesium and platinum wire.

Expansion of solids and liquids. Circulation in hot water systems. *Practical Work.*—Show expansion of a flat metal strip, fixed at one end and resting freely on a fine sewing needle at the other, the rotation of the needle shows the lengthening and shortening of the bar. Show and compare expansion of water and of alcohol in flask fitted with long tube.

Construction of thermometers. Uses of household thermometers for cooking and other purposes. The clinical thermometer and its use. *Practical Work.*—Fill a thermometer tube with coloured alcohol so as to indicate ordinary house temperatures from about 32° F.—100° F. Construction of both Centigrade and Fahrenheit scales for the thermometer.

Weight of the atmosphere. Expansion of air. Ventilation and ventilators. *Practical Work.*—Expel air from a Florence flask by boiling a little water in it, weigh before and after the admission of air. Find weight of 1 c.c. of air under these conditions. Construct any form of simple air thermometers. Show that hot air is lighter than cold air by weighing a flask closed when full of hot air, and then when full of cold air. Show models of ventilators, and how the currents of air in a room are passing.

Change of state and hidden or latent heat. Heat is required to melt ice or boil water without causing any rise of temperature. *Practical Work.*—Mix equal

* This is an expanded form of the new subject "Domestic Science" of the Code of Education Department, 1904, IV., 14.

weights of water at 40° C. and ice at 0° C.; a good deal of the ice melts, but no rise of temperature occurs. Show evolution of heat on sudden solidification of a cold supersaturated solution of Glauber's salt or "hypos." Show that a few grains of steam at 100° C. raised into 50 c.c. of water (cold) will raise it to boiling point, but the same weight of boiling water added to 50 c.c. of cold water would only raise its temperature a few degrees. The steam, therefore, contains hidden or latent heat. Find melting point of butter, lard, &c.

Distillation. Purification and separation of liquids. **Practical Work.**—Distil solution of ink, sugar, salt, &c. Distil beer or weak alcohol solution; find density of the distillate.

Evaporation. Condition of atmosphere as regards moisture. Systematic observations. **Practical Work.**—Find loss of weight of dish of water day by day. Record graphically. Repeat experiment with larger and more shallow dish.

Changes in weight of a bag of seaweed. Wet and dry bulb thermometers. **Practical Work.**—Weigh day by day bag of seaweed or roll of flannel. Take readings of hygrometer, barometer, thermometer, &c.

Solution and solubility. Distinction between melting and dissolving. Determination of solubility of common substances. Saturation. **Practical Work.**—Ascertain by experiments with small quantities on watch glasses what common substances are soluble in water, also ascertain if some substances, such as lumps of chalk, iron, though not dissolved by water, are soluble in other liquids, such as acids and vinegar. Make saturated solutions of salt, soda, borax, alum, chalk, lime, &c. Evaporate in weighed dish 10 c.c. of each, and find weight of residue. Depict graphically relative solubilities.

Transmission of heat. Conduction, radiation, and convection. Air a bad conductor of heat. Applications to clothing. **Practical Work.**—Show hot air currents above a flame; show motion of particles of bran or oak sawdust in a beaker of water heated by a small flame at bottom; show that thermometer exposed to direct radiation of fire does not register temperature of surrounding air.

PART II.

Principal effects of heat on the chief types of food stuffs. The cooking of animal food. Boiling of an egg. **Practical Work.**—Determine temperature at which white of egg coagulates, and notice further changes as temperature rises. Weigh an egg before and after boiling.

The cooking of vegetable foods. The nature of flour and starch. Changes in starch when heated. **Practical Work.**—Knead flour in muslin bag to separate starch from gluten. Determine temperature at which starch granules burst in water. Convert starch into British gum.

Fermentation and yeast. **Practical Work.**—Leave some yeast in a twenty per cent. solution of sugar in a warm place. Collect some of the gas evolved. Test it with burning taper, lime, and lime water. Distil some of the fermented liquor: show that first distillate contains alcohol. Examine yeast under microscope.

Yeast substitutes. Baking powder. **Practical Work.**—Show that when baking powder is moistened a gas is evolved identical with that from fermentation. On adding any acid to bicarbonate, whiting, or washing soda, the same gas is obtained; also from all effervescing mixtures.

Burning of animal and vegetable substances in the air. **Practical Work.**—Heat weighed pieces of fat and lean meat; also bread, wood, paper; determine ash. Heat some wooden splinters in hard glass tube; burn the charred remains in air on a platinum wire.

Burning of mineral substances in air. **Practical Work.**—Heat weighed quantities of iron, copper, and sulphur.

The rusting of iron. The nature of the change. Is

the air concerned? In water concerned? **Practical Work.**—Leave weighed quantities of iron borings or small French nails to rust in air; after two days dry and weigh again. Leave iron nails soaked up with water for several days. Leave a muslin bag of iron borings suspended in a jar of air over water for twenty-four hours.

Examination of inactive part of air. Burning of a candle, of phosphorus and of sulphur. **Practical Work.**—Test inactive part of air with lime, lighted taper, lime water, &c. Burn candle, phosphorus and sulphur in bell jar of air. Test products of combustion and residual gas in each case as above.

Phosphorus in matches. The rusting of phosphorus in air. Composition of air. Immaterial nature of heat. **Practical Work.**—Burn small piece of phosphorus in round-bottomed Florence flask, fitted with India-rubber stopper. Weigh before and after. Open under water: measure volume of water entering. Leave a stick of phosphorus to rust slowly in jar of air over water. Examine residual gas.

Examination of active part of air. Synthesis of air. **Practical Work.**—Prepare several jars of oxygen by heating a mixture of potassium chlorate and manganese dioxide. Burn sulphur, phosphorus, iron wire in the gas. Examine products of combustion. Show identity with those obtained above. The names of oxygen and nitrogen. Fill up a jar, in which iron or phosphorus has rusted, with oxygen and show resulting mixture behaves similarly to air.

The burning of fuel in air or oxygen. The identity of oxide of carbon, or carbonic acid gas, with that obtained by fermentation. **Practical Work.**—Pass a stream of air or oxygen over some strongly heated charcoal. Collect and examine the products of combustion.

The coal fire. Weight of carbonic acid gas formed is greater than the fuel consumed. **Practical Work.**—Pass oxygen over weighed quantity of carbon. Allow the carbonic acid gas to pass through weighed tubes containing caustic soda or lime. Compare increase in weight of caustic soda tube with that of carbon burnt.

Cool gas. Its manufacture. Products of its combustion. **Practical Work.**—Heat some fine coal in hard glass tube; collect gaseous products; note that on burning the cool gas carbonic gas is formed, and a water-like substance.

Flame. The candle flame and simple coal gas flame. The Bunsen burner and gas stove. The various forms of burners for luminous flames. Reading the gas meter. Construction of gasifier. Gas explosion. **Practical Work.**—Lead unburnt gas from lower zone of candle flame. Take Bunsen burner to pieces, and show how character of flame alters with the amount of air mixed with the gas. Take a gasifier to pieces, and show the object of keeping outer tube full of water. Make various mixtures of coal gas and air in gas jar, and apply a lighted taper to each. Read the gas meter before and after cooking with a gas stove.

Presence of carbonic acid gas in atmosphere, its manufacture in the lungs by the burning of the carbon of the blood. **Practical Work.**—Inhale and exhale air through lime water. Leave dish of lime water exposed to air.

PART III.

Water supply. Proportion of natural water. Water as a food. Uses of water. **Practical Work.**—Find total solids in water. Find percentage of water in typical food by drying slowly over water bath and in air even at low temperature. Measure gases given off by boiling water.

Impurities in water; hard and soft water; fur on kettles. Measurement of hardness of water. **Practical Work.**—Make artificial hard water by passing carbonic acid gas into lime water till solution becomes clear. Boil this clear solution. Make soap solution

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XVIII.

and determine the volume of it necessary to produce a permanent lather with measured volumes of hard water.

Composition of water. Hydrogen gas, its preparation and combustion. Comparison of hydrogen with coal gas. *Practical Work.*—Show production of a liquid by burning coal gas or hydrogen in air; show that this liquid is water by freezing it and boiling it. Show production of water by passing hydrogen or coal gas over copper scale.

Acids and alkalis; their action on litmus and certain coloured substances, on fabrics and on one another. *Practical Work.*—Show colour reactions of the ordinary acids, vinegar, soda, ammonia, and lime with litmus, &c. Exactly neutralise acids with spirits of salt.

Soap and soda. Manufacture and uses. *Practical Work.*—Prepare some caustic soda by boiling lime with washing soda. Boil some dripping with strong caustic soda; salt out the soap.

Cleaning and removal of stains. Cleansing greasy or rusty utensils without waste of soda. Water as a cleansing agent. Necessity for cleaning ovens and gas stoves. *Practical Work.*—Remove grease, ink, or fruit stains.

The elements entering into the composition of the human body. The necessity of maintaining the supply of these in the form of food. Importance of mixed diet.

Food as a fuel for the maintenance of the temperature of the body. Air as a food. The kinds of food which supply the different needs of the body.

General functions and structure of digestive system. Changes that foods undergo.

Preservation of food, putrefaction and decay; organisms producing decay. *Practical Work.*—Experiments on sterilisation of foods.

Disinfectants. Warming and ventilation treated more fully than in Part I.

APPENDIX A.

XIX.

XIX.

MEMORANDUM put in by Mr. J. VAUGHAN, ORGANISER OF HAND AND EYE TRAINING under the SCHOOL BOARD for LONDON.

In March, 1887, the Board appointed a Committee to enquire into, and report on the "Subjects and Modes of Instruction in Board Schools." This Committee owed its origin in a large measure to a remark in the Report of the Examiner for Scholarships which said, "After examining the picked boys from the elementary schools of London, my conclusion is, the boys are machine-like. I consider the present system a very poor foundation on which to construct a satisfactory higher education."

The evidence taken by the Committee showed that "as the first phase the physical or bodily side of education, including the development of muscular strength, of the memory and the sense of colour, and of perception of the eye, and of the pliancy and dexterity of the hand, was almost neglected," while the mental or brain work appealed more to the memory than to the intelligence.

The remedy suggested was, that some form of manual work should be introduced, so that, in Professor Huxley's words, "the faculty of accurate work, and the faculty of dealing with things instead of words" should be well cultivated. It was universally admitted that the best method of accomplishing this end, was to develop the kindergarten occupations throughout the standards of the senior schools.

Accordingly, Mr. Ricks, the Board's Senior Inspector, drew up a scheme to carry out this idea. Lectures were first given to teachers, and some few classes formed for practical work; experiments were also carried on in a few selected schools. The work succeeded beyond our expectations, and during the past six years, something like 6,000 teachers have taken courses, in one or more of the various subjects, and the work has been introduced into between 300 and 600 departments of Board Schools in London, besides those in other towns.

Naturally, with so many other subjects to be taught, teachers asked where time was to be found in which to teach the subject. Practical experience, however, has shown that the one or two hours per week given to manual instruction has not caused the least deterioration in the other work, while it is immensely popular with the children. Besides the special circular on manual occupations issued by the Education Department points out, "any work which provides a real training for hand and eye is in the truest sense education." It has been further remarked in a report on French schools, where hand and eye training is compulsory, that "it has been conclusively proved that half the ordinary school time can be given to the training of the hand and eye in elementary schools without lessening the effect of the ordinary

instruction," and that "without the training of these organs, and bringing them together in their action, we are certainly neglecting that class of culture, which to sixty-five per cent. of the people is of most use to them."

The subjects which have been most suitable and capable of fulfilling the purpose are paper work, colour work, brush drawing, cardboard work, and clay work. In some few girls' schools paper flower making has proved a most attractive occupation.

In selecting these several branches care had to be taken to see that the occupation was, first of all, educative, and calculated to train the mind and cultivate the powers of observation, as well as pliancy and dexterity of hand, that it could be carried out in an ordinary class room; that it was interesting in itself, and suitable for both boys and girls, that it was capable of being dealt with in a progressive series, and that it should not be too expensive.

Expressed briefly, the different subjects are carried out as follows:—

Paper Work.—There are three distinct processes involved in this occupation, viz., drawing, cutting, and mounting.

1. The drawing always precedes the working out of any designs in coloured paper, and is to the children just what a "working drawing" is to the artisan. In Standards I and II, the working drawing is made by folding plain white paper in various ways, and from the fold lines thus produced, evolving a pattern. The design is made more distinct by the aid of shade lines on some of the spaces. In Standard III, and upwards the folding is dispensed with, and the working drawing is produced in the ordinary way, on drawing paper.

2. The design being completed in black and white, as it were, is next worked out in coloured paper. The various shapes necessary to form the pattern are cut out with scissors or with a knife.

3. They are then mounted on specially prepared cards. The coloured paper is gummed on the back, so that only a damp sponge is necessary when fastening it down.

Paper work trains to great accuracy in cutting and mounting, and to delicate finger manipulation.

The exercises are so arranged that the simple principles of design are taught progressively from Standard I. upwards. It trains the eye to a nice sense of proportion, space, and colour, and when well taught is a most useful occupation. It is extremely popular with the children; the effective patterns produced are a great stimulus to really good efforts on their part. Dealing constantly with the good coloured paper supplied, tends greatly to raise the taste. It

costs about 1s. per head when first starting, and from 4d. to 6d. per head per year afterwards.

Colour Work is divided into two branches. 1. Colouring with coloured chalks. 2. With water colours.

1. The coloured chalk work is usually done in Standards I., II., and III. It consists of colouring patterns with various coloured chalks, which have been specially prepared, applied with a stump. This method has been found preferable to using coloured pencils. As it is highly essential that good form should be allied to good colour, aids are given to the young children in the shape of specially squared paper, and "templates," so that their drawings may be correct.

2. Water Colour work usually commences with Standard IV., and is carried on throughout the school afterwards. The scholars draw patterns in pencil and then fill in the spaces with washes of flat or graduated colour. Great dexterity is needed to successfully manipulate a wash of colour on a large surface. In girls' schools exercises in colouring flowers—sometimes from nature—is most popular.

Colour work does not train in a technical sense to the same degree as paper work, but is rather taught for the inference it has upon other subjects. A knowledge of colour is useful in so many callings—the milliner, dressmaker, decorator, lithographer, printer, florist, chemist, &c. Any "home arts and crafts" which may be practised will almost certainly demand a knowledge of colour, and the value of many things produced will depend more upon beautiful colour than upon technical skill. I think it is highly important in general education, but particularly so in any scheme of Hand and Eye Training.

The coloured chalk work costs about 3d. per head per year, the water colour costs about 1s. per head in the first instance, and about 4d. per head afterwards.

Brush-drawing is often confused with colour work, but the two subjects are distinct. In putting on a wash of colour the space has been previously drawn with a pencil, and is simply filled in with colour; but in brush-drawing no space is previously drawn, the form is drawn direct with the brush. It is used almost entirely for decorative purposes, and to produce rapid impressions of floral or animal forms. It will be best understood by seeing examples. No occupation is better for teaching the principles of simple decorative design.

Brush-drawing develops the artistic side of hand and eye training—the "drawing" is the drawing of the artist.

Paper Work develops the artisan side, and the "drawing" required in it is artisan or industrial drawing.

Colour Work lies somewhere between the two. It costs on an average about 4d. per head per year.

Cardboard Modelling is not usually taken up before Standard IV. The physical strength required is too great for the children of the lower standards. For mastery of workmanship and careful drawing, it is not surpassed by any other form of manual work.

The preliminary exercises consist of flat surfaces, squares, triangles, hexagons, &c.; then simple geometrical

models, as the cube, square prism, square pyramid, &c. are taken, and simple objects of utility, trays, vases, folios, &c., then some skeleton models and sectional models, the latter being most useful in teaching solid geometry. By covering the models with various coloured papers many good colour effects are obtained.

In rural schools, where woodwork is not possible, cardboard work would form a most effective substitute.

The tools cost about 1s. 3d. per set, and the suitable material would amount to about 6d. or 8d. per head per year. Claywork, like brush drawing, perhaps trains the artistic side of manual work, but it is highly important, and probably more useful as an educational agent than any one of the other subjects. It cultivates a nice sense of touch; the appreciation of form, line, and relief. It can be adapted to so many forms, and being readily portable, is so suitable for young children.

The earlier exercises in Standards I. and II. consist of making simple geometrical arrangements, and representations of simple fruits or other objects, such as an apple, a lemon, a mushroom, a fish, a carrot, a bottle, a cup, a top, &c.; then, simple architectural ornaments are modelled, and more advanced objects; then comes modelling from casts or photographs of ornament, simple animal and floral forms, &c.

The different occupations are taken in a variety of ways. All of them, except cardboard work, are so graduated that they may be commenced in Standard I. and continued throughout the entire school course. Some schools take one subject and work it in Standard I., II., and III. only; others take one subject throughout the entire school. Some again, take two subjects, as paper-work and clay-work, or colour work and clay-work, and do the two alternately, carrying them in some cases to Standard III., and in other cases throughout the school. Again, some schools take, perhaps paper-work, or colour-work, or brush-work in Standards I., II., and III., and then add a second subject in Standard IV., and upwards. The selection is left entirely to the head teachers, but each subject is complete in itself, and can be carried throughout the entire school without a break.

In schools where "Manual Occupations" are taken as a "Class Subject" for payment, two occupations must be selected, and worked by each class in Standards I., II., and III.

Whatever the subject may be, original efforts on the part of the children are always encouraged, to stimulate independent power of thought and judgment, and to help them to strike out new lines for themselves.

Considering the very rural character of the population in Ireland and the conditions of life, I think some scheme of manual work would be greatly beneficial in fostering the development of home arts and industries which are such a conspicuous success in some places abroad.

I have put this as briefly as possible, but if the Commission would like a detailed scheme in every subject I shall be glad to supply it.

XX.

DOCUMENT put in by Mr. S. BARTER, ORGANIZER OF MANUAL INSTRUCTION to the SCHOOL BOARD for LONDON

EXTRACT from Mr. BARTER'S Book on Drawing,* pages 1 to 8.

DRAWING.

It is intended to consider here the widely comprehensive subject, Drawing, from one point of view only, that of the manual training teacher—an aspect to some extent restricted, and yet of sufficient breadth to demand and deserve the most careful consideration.

Drawing of any kind is in itself a form of manual

training. A child's hand must acquire dexterity, and his eye must be trained to accurate and intelligent observation, if he is set to draw.

The stimulation of the imagination and the strengthening and directing of the spirit of inquiry in the child mind are of themselves objects which every teacher regards, if not indeed as the goal of his

* Manual Instruction—Drawing. By S. Barter. (Whitaker & Co., 1894.)

labours, at least as the hardest portion of his work; and all will agree that, when once enthusiastic attention is secured in the pupils, the mere imparting of information is as much a pleasure to the teacher as to the class.

Drawing is, when properly taught, one of the subjects in which this can most readily be achieved; but not, however, by the series of spiritless, flat copies of conventional curves combined into pictures of nondescript vegetables which still find a measure of acceptance in our schools.

Drawing is essentially a living, interesting subject which is a mode of expression, in one or other of its forms, of any perceptions or emotions of whatsoever kind.

It lends itself with equal ease to the inspiration of the great artist, to the humour of the caricaturist, or to the most exact necessities of the map-maker or the engineer. It has at once the language of the vaguest suggestion and of the utmost precision.

A careful teacher, intelligent, knowing his subject, and unhampered by restrictions, has in his hands, by reason of its very adaptability, one of the strongest possible means of education.

Good teaching in any form of drawing, besides being a training in itself, is the best foundation for technical instruction, and, as most trades are more or less precise and definite in the nature of their requirements, mechanical drawing will usually be found to be the best form to suit the requirements of the technical teacher.

The report of the Pennsylvania State Commissioners in 1889 (p. 564), puts the case very well. It says, referring to mechanical drawing, "For all material arts drawing is the language par excellence of a clearness, precision, and conciseness which the language of words cannot attain," and, as language is the almost essential foundation of further mental education, so drawing is the natural starting point of nearly every form of technical education.

One of the most satisfying circumstances in connection with recent developments in education is that the teaching of drawing is being affected by the awakened conviction that the "whole boy" must be put to school, and that education must be really a training of the natural faculties, and not an unpalatable meal of indigestible facts.

The lads of the future, then, who pass into the care of the technical teacher will not be so unprepared as formerly to receive the more special training he can give them.

But, narrowing the question to the limits prescribed by the object of this treatise, let us consider the relationship of drawing to manual training, as we already have it in elementary schools.

By manual training we will now understand the more restricted branch of instruction covered by work in wood or iron, although only so limited from motives of expediency.

We will not consider at present the older established forms of the kindergarten, nor the very interesting and valuable training afforded by clay modelling.

These forms of manual training are well established, and the methods and aims are admirable; but the newer manual training in wood and metal which is looked to with so much hope is likely to lose much of its effective value unless care be taken to guard against possible dangers.

One of the most important of these dangers is that drawing may be insufficiently or unwisely associated with the bench work.

I have endeavoured to show what I am conscious is not as deeply appreciated as could be wished, although to many of my readers it may appear unnecessary, that drawing in manual training is valuable in itself, and is the essential foundation of future development in the direction of technical education.

Although too many rules are undesirable, and in so elastic a subject as manual training dangerous to

its healthy growth, I will venture on the positive statement that a fully dimensioned paper drawing should be made of every piece of work before commencing, or concurrently with the bench work.

In the first place, the drawing practice must be good and useful.

Secondly, the child has the advantage of a clear notion of his piece of work as it is to appear when it leaves his hands, as well as precise instructions from his dissections as to the size of all its parts. Any hazy ideas on the subject he may have are now removed.

Thirdly, he learns what a working drawing is, commencing with a very simple form, and gradually proceeding to the complex, until, when leaving the manual training room for ever, the making of working drawings has caused a lively appreciation for all that the technical teacher can show him of the more advanced forms.

The drawing of a technical work-room is directed towards the accomplishment of work solely. The instructor merely teaches the application of a knowledge of freehand, geometry, and perspective, already gained by his pupils, elsewhere probably, but at any rate quite independently. In this connection it is found that, owing to the more difficult nature of the work to be done, the drawing becomes really indispensable, and unless his pupils have some previous knowledge of the making of working drawings, the difficulties of the technical instructor are much increased.

The drawing of a manual training room is, like the bench work, educational above all things. To teach the boy to draw, to acquaint him with the characteristics of the work which is to follow, based on his drawing, are the obvious objects in view, but there is more which is not quite so readily seen.

Not only must the drawing show what is to be made, but, as far as possible, it should indicate how to do it.

The methods in the technical room and in the manual training room are therefore different, although in both cases a complete working drawing of every piece of work is demanded and obtained.

With the workman, production is the main object. Every other consideration must stand aside. Speed in work, combined with good quality, is the one object of the skilled artisan.

In the economy of a trade workshop, drawing would probably be discarded altogether as a waste of time if it were possible to dispense with it, but, recognising the entire necessity of sufficient working drawings, the workman has devised methods which are intended to enable him to accomplish what he wants without wasting a moment in making an unnecessary line.

Unfortunately, many workmen of the older type have never been taught the scientific basis of the drawing, and although they have learned by experience to understand the linear heresies of the architect's office in the case of familiar work, they are quite unable to read a new and peculiar drawing.

Division of labour has largely entered into many trades, partly in consequence of this defect of the men themselves, and partly because it is found more productive to set one good intelligent man to draw and "set out" for many other merely casual workmen.

This division of labour has rendered the men still less acquainted with the theory of working drawing.

The younger men, however, who have the sound training of the Science and Art Department closest to aid them, find the power of the theory with the startling rapidity of the workshop method of increasing advantage. Such men, however, do not yet form a very large proportion of those engaged in trade.

In the technical room this kind of drawing is now scientifically taught, but no subdivision of labour is allowed. Each pupil makes his own working drawing, so that he can, in due time, either draw or make anything within the scope of his trade.

In the manual training room the case is very different. The great object is to develop the child. The essence of the teaching is in "the doing, not in the thing done." Production is not aimed at; it merely follows as a consequence, and although the drawing here happens to be the best foundation for the work of the technical teacher, this is not the main object of teaching it.

Molay, it is to cultivate the natural faculties of observation and attention, and to train the hand to dexterity by the use of the drawing tools.

The drawing which will have to be done is necessarily largely mechanical, and to grasp thoroughly the principles of this drawing, plans, elevations, and sections must be clearly understood. But this is difficult with children, and indeed, in some respects almost impossible.

To overcome the difficulty, the drawings made in the early stages should be, as early as possible, pictorial. This is also useful in the more advanced work, where the ordinary projections are not readily understood.

No division of labour leading to imitative work should be permitted. Each boy must make his own drawing, and, instead of making it in an abbreviated form, he must be taught to make as full, clear, and accurate a working drawing as is possible.

The drawings must not be copies, but should be constructed under the guidance of the teacher. Moreover, they should be made in a manner which will, while the drawings are being executed, bring home to the pupils a vivid impression of the exercises or models which are to be made from them.

It has been said that, in the early stages, or in difficult cases, the teaching will be much clearer for the introduction of so much as possible of pictorial effect.

No sketching in working drawings should be permitted. Accuracy is as desirable in this case as in any other, and should be as ever pre-eminant.

Freehand drawing should not, however, be banished from the workroom. It may be used in making drawings of tools, and in completing curved lines of working drawings.

The combination of the accuracy of a working drawing with the vividness of a freehand sketch is a matter of some difficulty, but the solution of the problem is found in conventional drawing, of which the best form is isometric projection.

Isometric projection has several distinct advantages. First, it is pictorial. A child can almost always see quite clearly what the bench problem is in the drawing when he cannot realise it from orthographic projections.

Secondly, it is easy, and for this reason alone it should be taken as early as possible.

The angles, being all either 90° or 120° , can be

obtained from two similar set-squares. These set-squares should be used in the draughtsman's manner, by arranging them against each other, so that the sum of two adjacent angles of the two set-squares may give the required angle, or by using one as a base to slide the other along, each square being used, possibly alternately, as a T-square and a set-square. This plan is remarkably rapid, and very safe.

One 80° set-square and a T-square can be used. This plan is not recommended for children in the early stages, as the T-square gives rather too much mechanical aid. It is preferable to induce the pupils early to a full use of the set-squares, as it fosters self-reliance.

Experience teaches that children have some difficulty in even holding the set-square firmly, which difficulty must be combated and overcome early in the instruction.

Thirdly, it is capable of logical demonstration. Elsewhere we have given an explanation of the theory of isometric projection, but we will pause to consider the objection sometimes raised, that children cannot understand the theory, and that it is better, therefore, not to attempt to teach anything which they will only learn mechanically.

In the first place, it is not true that none of the children can understand it, and for those who can it is an admitted advantage.

But for those who cannot—and it must be allowed that these are the majority—what are we to substitute?

Either inaccurate, unreliable freehand sketches, or conventional drawing. The latter has no scientific basis, and therefore no single child can possibly understand it in any other light than as a pictorial representation of the object, and that is exactly the light in which most children regard isometric projection.

The majority of the children, then, have the same difficulty with both isometric projection and conventional drawing, with this important difference, that isometric drawings can be made much more readily.

Isometric projection, it must be observed, can only be used for rectilinear drawings.

Beyond the elementary stage, the ordinary orthographic projections should be consistently used; and here, although the theory of plan and elevation can be told to children in simple cases, they will have some difficulty in even elementary sections. However, there is nothing insuperable in this, and much of the difficulty is caused by the insufficient knowledge of the theory underlying all working drawing. In other cases there is inability to apply the theoretical knowledge of geometry in practice, and it is the endeavour of the following pages to meet, as far as possible, the requirements of both these cases.

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XXI.

XXI. DOCUMENTS put in by Mrs HOMAN, of the School Board for London.

(1.)

SCHOOL BOARD FOR LONDON.

SCHOOL MANAGEMENT DEPARTMENT.—COOKERY AND LAUNDRYWORK.

JOINT SCHEME OF INSTRUCTION.

[Article 205 of the Board's Code of Regulations and Instructions for the Guidance of Managers and Teachers.]

[Approved by the Board, 7th May, 1896, Clause (xxvi) added to the 30th July, 1896.]

The instruction in cookery and laundrywork must be given to the scholars of the Board according to the following joint scheme:—

COOKERY.

(1.) Subject to Clause (v.), all girls in Standard IV. shall be required to attend twenty-two lessons in the first course of instruction in cookery at one of the Board's Cookery Centres.

(2.) Subject to Clause (v.), all girls in Standard V.

shall be required to attend twenty-two lessons in the second course of instruction in cookery at one of the Board's Cookery Centres.

(iii.) To meet the requirements of the Education Department in respect of Cookery, the morning and afternoon lessons must be divided between practical and other work as follows:—

Morning classes to commence at 9 o'clock. Demonstration to all the girls until 10. First practice 10 to 11, second practice 11 to 12 o'clock. The last practice to include dishing up, cleaning utensils and clearing away.

Afternoon classes to commence at 2 o'clock. Demonstration to all girls until 3 o'clock. Practice of all girls until 4.30 o'clock. The practice to include dishing up, cleaning utensils and clearing away.

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(iv.) Arrangements will be made as early as possible in the school year for instruction in cookery to be given in connection with all Girls' and Mixed departments. Each course of instruction will consist of 22 lessons, and each girl commencing must make 22 attendances. Not more than 18 girls shall attend afternoon cookery classes in order that the requirements of Article 101 (g) of the New Code of the Education Department, with regard to the 20 hours of practical work, may be fulfilled.

(v.) At the commencement of the twelfth month of the school year, Head Teachers of Girls' and Senior Mixed departments must send in to the Cookery Superintendent a list of the approximate number of girls over ten years of age who will be in Standards IV. and V. at the beginning of the coming school year, and must state what half-days of the week would be most convenient for the girls to attend for instruction in Cookery. Head Teachers must also state whether they would prefer the lessons to be taken during the first or second half of the school year, or whether they would wish the lessons to be taken throughout the school year. In schools where there are no Standards VI. and VII., or very small ones, girls in Standard V. who have already attended the first course of instruction in Cookery shall attend a Laundry course.

(vi.) The food cooked at the Cookery Centres must be sold, if possible.

(vii.) The Board authorise the award of a certificate to all girls who make the 22 attendances, of which 18 must be red-mark attendances, during the first course of instruction in Cookery, and who also satisfy the requirements of Article 101 (g) of the New Code of the Education Department, and a further certificate and a prize consisting of a copy of the Board's Cookery Receipt Book to all girls who make the 22 attendances, of which 18 must be red-mark attendances, during the second course of instruction in Cookery, and who also satisfy the requirements of Article 101 (g) of the New Code of the Education Department. The cost of such prize not to exceed 6d.

(viii.) No girl's name is to be struck off the Cookery Register until the completion of the course of instruction, unless she shall have left the school.

LAUNDRYWORK

(ix.) All girls in Standard VI. and upwards shall be required to attend 12 lessons in laundrywork at one of the Laundry Centres of the Board. Girls who attend a course of instruction whilst they are in Standard VI. are not required to attend a further course of Laundrywork.

(x.) Arrangements will be made as early as possible in the school year for instruction in laundrywork to be given in connection with all Girls' and Mixed departments. Each course of instruction will consist of 12 lessons, and each girl commencing must make 12 attendances.

(xi.) At the commencement of the twelfth month of the school year, Head Teachers of Girls' and Senior Mixed departments must send in to the Laundry Superintendent a list of the approximate number of girls over 11 years of age who will be in Standard VI. and upwards at the beginning of the coming school year, and must state what half-days of the week would be most convenient for the girls to attend for instruction in laundrywork. In schools where there are no girls in Standards VI. and VII., teachers should arrange for Standard V. girls who have already attended the first course of instruction in Cookery to attend Laundrywork. Head Teachers must also state whether they would prefer the lessons to be taken during the first or second half of the school year, or whether they would like the lessons to be taken throughout the year.

(xii.) Girls may bring suitable garments, &c., from their homes to be used in the laundry lessons, but no charge may be made in respect of them.

(xiii.) The Board authorise the award to all girls who make 12 attendances, of which 10 must be red mark attendances, during a course of instruction in Laundrywork, and who also satisfy the requirements of Article 101 (h) of the New Code of the Education Department, of a certificate and a copy of a Laundry Receipt Book for prize. The cost of such prize not to exceed 6d.

(xiv.) No girl's name is to be struck off the Laundrywork Register until the completion of the course of instruction unless she shall have left the school.

COOKERY AND LAUNDRYWORK.

(xv.) Cookery and Laundry Centres are provided at certain schools, at which the girls from these schools and from others in the neighbourhood shall attend to receive instruction in these subjects.

(xvi.) The practical work in Cookery and Laundrywork must be given in each lesson in accordance with a syllabus previously approved by the School Management Committee.

(xvii.) The girls from each school are required to attend at least one half-day in each week during a course of instruction in either Cookery or Laundrywork.

(xviii.) To each Cookery and Laundry Centre an Instructor is appointed, holding a certificate approved by the Board and by the Education Department, who will take charge of the Centre and give the girls their instruction. Two or more schools may combine for lessons, with the consent, and by the arrangement of the Sub-Committee on Instruction in Cookery and Laundrywork.

(xix.) Schools in outlying districts which cannot be included in this centre system owing to distance or other causes, may be supplied with apparatus, &c., in order that the girls residing in such outlying districts may receive their instruction in Cookery and Laundrywork at their own schools.

(xx.) In the case of very poor schools, where there is a large number of girls over 11 years of age in Standard III., special arrangements will be made by the Sub-Committee on instruction in Cookery and Laundrywork, if requested by the Head Mistress, for the instruction of these girls in the first course of instruction in Cookery, and for the instruction of girls in Standard IV. in Laundrywork, leaving the second course of instruction in Cookery to be taken in Standard V.

(xxi.) In schools where there is a number of girls under 10 years of age in Standard IV., the Sub-Committee on instruction in Cookery and Laundrywork will, if requested by the Head Mistress, arrange for the first course of instruction in Cookery to be taken in Standard V., the second course of instruction in Cookery in Standard VI., and the course of instruction in Laundrywork subsequently.

(xxii.) No girls must take both Cookery and Laundrywork in the same year, except by special permission given on application made to the Sub-Committee on Instruction in Cookery and Laundrywork.

(xxiii.) Head Teachers of Girls' and Mixed departments must be careful to answer the questions under VIII. on the fourth page of Form 9 B of the Education Department, and to give in the proper column of Form numbered 80 of the Education Department (Examination Schedule) accurate information as to the number of hours during which girls have attended a Cookery or Laundry class during the school year. Head Teachers must also be careful to place, on the ordinary time-table of the school, after consultation with the respective Superintendents, as soon as possible after the commencement of the school year, the days and hours for instruction in Cookery and Laundrywork. If circumstances should prevent this being done before the time-table is submitted to the Government Inspector for approval, the

Education Department require that these days and hours shall be entered in the approved time-table, and that the time-table shall be forthwith re-submitted to the Inspector for approval of such days and hours.

(xxiv.) Cookery and Laundry Centres are open in the morning from 9 to 12, and in the afternoon from 2 to 4.30. Girls who attend a Centre in the morning must be in their places at 9 to obtain a red mark, and at 9.30 to obtain a black one. Those who attend in the afternoon must be in their places at 2 to obtain a red mark, and at 2.30 to obtain a black one. A morning red mark attendance is to count for three hours' work, and a morning black mark attendance for two-and-a-half hours. An afternoon red mark attendance is to count for two-and-a-half hours' work, and an afternoon black mark attendance for two hours. Girls may be admitted to a Centre at any time during the morning and afternoon, but their attendance must not be marked in the Registers after 2.30 a.m. and 2.30 p.m. In marking the Cookery and Laundry Registers, girls absent at 2.30 a.m. and 2.30 p.m. respectively must be marked thus ○, and any girl leaving a Centre without completing at least two-and-a-half hours in the morning and two hours in the afternoon must have her attendance marked cancelled by having a circle placed round it, thus ⊙.

(xxv.) Girls who attend Cookery and Laundry Centres are required to go direct from their homes to the Centre, and the Instructors are responsible for properly marking the attendance of each girl.

(xxvi.) Cookery and Laundry Instructors are required to keep two Registers, one taking the form of a separate "Sheet Register," for each school, which shows at a glance the attendance for the whole course of lessons, and the other a small book known as the "Cookery Attendance Book" or "Laundry Attendance Book," which is sent by the Instructors to the Head Teacher by post immediately after the last lesson for the week has been given. The "Sheet

Registers" are sent to their respective schools on the termination of each course of lessons, and the Managers should compare them with the School Registers when examining and filling in Form 9 B. The Managers of a school at which there is a Centre should test the whole of the Registers of the Centre. The "Sheet Registers" should also be brought under the notice of the Government Inspector.

(xxvii.) Head Teachers should place in the Day Register a circle thus ○ against the name of any girl absent for the purpose of attending a Cookery or Laundry Centre, and upon receipt of the "Cookery Attendance Book," or "Laundry Attendance Book," from the Centre, the letter "C" or "L" should be marked inside the circle, in red ink in each case where a child has made a punctual attendance at a Centre entitling her to a red mark, and in black ink in each case where a child has made an unpunctual attendance at a Centre only entitling her to a black mark.

(xxviii.) The Head Teacher should, at the end of each week, add the Cookery and Laundry attendances to the registers by placing the total for each day under that of her own school for the same day, and reckon them in the weekly average. For those schools from which girls attend on Friday afternoons an arrangement has been made by the Works Committee for the Schoolkeeper to take the "Cookery Attendance Book," and "Laundry Attendance Book," from the Centre each Friday afternoon after the closing of the Registers at 2.30 p.m. to such school or schools, in time for the Head Teacher to make up the weekly average on that afternoon.

(xxix.) Girls are required to attend for instruction in Cookery and Laundry work in cases where their schools are temporarily closed, such as for stocktaking, cleaning, &c., but where centres remain open, whether the centres be at their own school or at a neighbouring one.

(2.)

SCHOOL BOARD FOR LONDON.

SCHOOL MANAGEMENT DEPARTMENT.—INSTRUCTION IN COOKERY.

SYLLABUS OF LESSONS.

N.B.—The numbers in brackets refer to the numbers of the rules in the "General Axioms for Plain Cookery."

For the first or elementary course—

- Lesson 1.—First Rules for Cookery (1). Vegetable Soup (2). Egg Sauce for Invalids. Eggs Cooked in Two Ways.
- " 2.—Boiled and Steamed Potatoes (3). Baked Bread Pudding.
- " 3.—Shepherd's Pie. Baking Powder. Boiled Suet Pudding (4).
- " 4.—Roast Mutton, and Rules for Dry Roasting (5 and 6). Yorkshire Pudding To Clarify Drippings.
- " 5.—Boiled Fish and Sauce (7 and 8). Fish Cakes.
- " 6.—Pie Soup (9). Seed or Currant Cake.
- " 7.—Minced Meat with Mashed Potatoes (10). Coffee (11).
- " 8.—Boiled Meat (12). Caper or Onion Sauce (8). Rice Pudding.
- " 9.—Leg of Beef Stew (13). Beef Cakes (13).
- " 10.—(a) Meat Pie and Patties (Short Pastry) (14). Hunter Pudding. (b) Fruit Pie for Practice.
- " 11.—Fish Fried in Batter (15). Scrambled.
- " 12.—Potato Soup (16). Bread with Yeast (16).
- " 13.—(a) Meat Pudding. Brown Bread or Baking Powder Bread (17). (b) Fruit Pudding for Practice.
- " 14.—Baked Haddock. Beef tea (18). Porridge (11).
- " 15.—(a) Tied in the Hole (19). Pancakes. Gravy.
- (b) Fruit Baked in Batter for Practice.

- Lesson 16.—Haricot Beans (either way) (21). Baked Potatoes (22). Roly-Poly Pudding.
- " 17.—Irish Stew. Boiled Greens (24). Poached Eggs.
- " 18.—Lentil Soup. Sausage Rolls (Flaky Pastry) (25). Fried Sausages.
- " 19.—(a) Liver and Bacon, or Tripe and Onions. Tapenade or Sage Pudding (26). (b) Bacon and Eggs for Practice.
- " 20.—Broiled Chops or Steak (28). Baked Dumplings or Turnovers. Cocoa.

Reserve Dishes.	Season Dishes.
Stewed Beef and Rice	Pump Pudding
Cornish Pasties	Mince Pie
Boiled Cauliflower	Orange Marmalade
Barley Water	Pickled Cabbage
Lemonade	Salads
	Jam

This syllabus for the first course is based on the following rules—

1. That the lessons should graduate from the simplest dishes, just as the teaching of any other subject would proceed from the elementary to the more advanced.

2. That all new classes should commence with the first lesson, and proceed in regular order, instead of beginning with the same lesson as those who have passed through half a course.

3. That all the "Cookery Axioms" already formulated be included in this syllabus.

4. That in the case of Season Dishes, none be omitted that have these special axioms, unless they have been given in a previous lesson.

APPENDIX A.
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5. That dishes bracketed thus (c) indicate that the second (b) may be used for practice, because the general method is the same for both, and the first dish (a), which, however, must be demonstrated, is usually difficult to dispose of, especially in the afternoon.

6. That two dishes requiring the same method should not occur in one lesson, e.g., Shepherd's Pie and Mink Pudding. As these would both necessitate the use of ovens and pie-dishes, confusion might be caused, especially with young teachers.

7. That the dishes demonstrated must be practised, but if some of the lessons, though enough for demonstration, should not prove sufficient for practice, dishes may be added from former lessons. With this object in view, cold meat dishes are arranged prior to roasting and boiling meat; and this also obviates the difficulty of disposing of the meat.

N.B.—Lesson No. 1 is arranged with the idea of introducing albumen in its simplest form, when an egg will be cooked under boiling point, and another will be cooked by the usual plan of boiling $8\frac{1}{2}$ minutes, to illustrate the effect of a higher degree of heat upon the albumen. This illustration will be the guiding principle in cooking meat and vegetables. The Egg Snow is to be tasted by the girls, and is intended to make the first lesson as popular and attractive as possible. Reserve Dishes are to be taken at the 21st and 22nd lesson, because the Syllabus only comprises twenty, and the course consists of twenty-two.

FOR THE SECOND COURSE.

- Lesson 1.—*Swedish Cookery*.—Steamed Fish. Invalids' Jelly. Cup of Arrowroot or Rice. Water. (1.)
- " 2.—Stewed Rabbit. Gingerbread. (23.)
- " 3.—Savory Cod. Bread and Butter Pudding. (7-8.)
- " 4.—Stewed Lentils. Cornflower Cake. (9.)
- " 5.—Meat Cake. Rice Snowballs. Orange or Lemon Sauce. (12.)
- " 6.—Haricot Mutton. Fried Potatoes (Cooked and uncooked). (15.)
- " 7.—Veal Pie (Flaky Pastry). Gingerbread Pudding. (25.)
- " 8.—Stuffed Mackerel or Herrings. Pig or Salsana Pudding. (4.)

- Lesson 9.—Good Vegetable Soup. Macaroni Pudding. (3.)
- " 10.—Potato Lesson.—Savory Potatoes. Supper Potatoes. Potato Pastry. (3.)
- " 11.—School of Cookery Hash. Yorkshire Tea Cakes. (10.)
- " 12.—Haricot Soup. Tracile Tart. Salad. (14-21.)
- " 13.—Curried Meat—Boiled Rice. Outrage. Buns. (11.)
- " 14.—Savory Sauter. Hominy or Semolina. Blancmange. Stewed Fruit. (20.)
- " 15.—Savory Hominy or Macaroni. Soda Buns. (13.)
- " 16.—Easter Stew. Swiss Pudding. (27.)
- " 17.—Fried Chops or Steaks. Apple Sauce. Steamed Semolina Pudding. Jam or Marmalade Sauce. (28.)
- " 18.—Fish Pie. Dr. Johnson's Pudding. Cornflower Custard. (24.)
- " 19.—*Roast Veal. Bread Sauce. Rice Buns. (3.)
- " 20.—*Swedish Cookery*. Invalids' Pudding. Tea Cup Pudding. Invalids' Cakes or Diet Bread. Hominy or Semolina Porridge. (17.)

Reserve Dishes.

1. Savory Pudding
2. Vegetable Marrow or Carrot Soup
3. Beef Olives
4. Stewed Steak
5. Fruit Cakes
6. Bran Tea
7. Toast Water

Season Dishes

1. Steamed Vegetable Marrow
2. Stuffed and Baked Vegetable Marrow.
3. Stewed Tomatoes
4. Pickled Onions
5. Preserves
6. Good Plum Pudding

(1.) The Syllabus for the second course of lessons is composed of entirely different dishes from the first; they illustrate the same principles, but are somewhat of a more advanced character.

(2.) The "Axioms" being formulated specially for Course I, do not apply so directly in every case.

(3.) The plan of teaching is exactly the same as for Course I, which has been proved to be more interesting and advantageous than the old plan of no demonstration, and the same dishes as for the first course repeated.

(3.)

SCHOOL BOARD FOR LONDON.

SCHOOL MANAGEMENT DEPARTMENT—INSTRUCTION IN LAUNDRY WORK.

SYLLABUS OF LESSONS.

[See Resolutions of the Board of the 30th October, 1890, and 15th December, 1890.]

- Lesson 1.—(a) General rules for washing.
(b) Order of work to be done.
(c) Composition, action, and use of water, soap, soda, blue, borax, and washing powders.
(d) Demonstration and practice:—(i.) Removing of stains. (ii.) Disinfecting.
(e) Directions for sorting and steeping.
- Lesson 2.—Washing of flannels, woollens, and Jaeger garments. Notes, demonstration, practice.
- Lesson 3.—Washing of fine things and table linen. Drying to be taught. Notes, demonstration, practice.
- Lesson 4.—Washing of bed and body-linen, coarse things, prints. Folding and mangling. Notes, demonstration, practice.
- Lesson 5.—Mixing of cold starch, starching. Cleaning of irons, management of fire. Ironing of collars and cuffs. Notes, demonstration, practice.

- Lesson 6.—Mixing of boiled starch. General rules for ironing. Ironing of pin-fines. Revision of last week's lessons. Notes, demonstration, practice.
- Lesson 7.—Starching and ironing of lace. Goffing. Revision. Notes, demonstration, practice.
- Lesson 8.—Notes on padding washing. Revision.
- Lesson 9.—Notes on washing of cretonnes and silk and worked goods. Revision of notes and practice on different parts of the course.
- Lesson 10.—Oral examination and practice lessons without aid as far as possible.
- Lesson 11.—Repetition and practice of the most difficult parts of the course.
- Lesson 12.—Repetition and practice of the most difficult parts of the course.

NOTE.—The Sub-Committee on Instruction in Laundry-work will arrange, when necessary, for an additional lesson or two, to enable those girls who have been absent from a few lessons during the course, to make up their attendances and qualify for grant.

* When a fowl or rabbit can be disposed of, it can be substituted for veal, and the training in either case would be a useful lesson.

XXII.

APPENDIX A.
XXII.

DOCUMENTS put in by Mr. E. M. HANCE, Clerk to the Liverpool School Board.

LIVERPOOL SCHOOL BOARD.

(1.)

PARTICULARS AS TO CERTIFICATES held by INSTRUCTORS in MANUAL INSTRUCTION.

Referred to in Question numbered 6902—Evidence of Mr. WILLIAM OULSON.

No. of Instructors.	WOOD-WORKING.			METAL-WORKING.			No. holding both Wood and Metal Working Certificates.	No. holding both Wood and Metal Working Certificates, but served Apprenticeship as a Trade and Journeyman.	NO. HOLDING BOTH AND ANY SPECIAL-IST CERTIFICATES for	
	No. holding Certificates of City and Guilds of London Institute.	No. holding Certificates from Liverpool University College.	No. holding Art Certificates of both City and Guilds and Liverpool University College.	No. holding Certificates from City and Guilds of London Institute.	No. holding Certificates from Liverpool University College.	Both City and Guilds and University College.			Mechanics Construction Drawing.	Building Construction.
15	11	6	6	4	3	3	4	2	3	1

(2.)

RETURNS giving particulars as to the Occupations taken up by STUDENTS attending the OSMANDESS SCIENCE SCHOOL, and also STUDENTS attending the MANUAL INSTRUCTION CENTRE, LIVERPOOL.

Referred to in Questions numbered 6905-7.

Occupation.	Certificates taken up by 360 Students who attended the Osmundess Science School.	Certificates taken up by a number of Students who attended the Osmundess Manual Instruction Centre during the two years of establishment.	Total.
Mining Engineer,	1	—	1
Analytical Chemist,	1	—	1
Manufacturing Chemist,	3	—	3
Electrical Instrument Maker,	1	—	1
Teacher,	66	—	66
Electrical Engineer,	3	1	4
Laboratory Assistant,	3	—	3
Glass Bottle Manufacturer,	1	—	1
Marine Engineer,	5	—	5
Engineer,	3	5	8
Secondary Schools,	5	—	5
Telegraphist,	1	—	1
Architect,	2	1	3
Scholar,	3	—	3
Office Boy,	—	4	4
Apprentice, Drawing Office,	—	1	1
Whetstone,	—	1	1
Mechanic,	—	3	3
Surveyor,	—	1	1
Cabinet Maker,	—	1	1
Shop Boy,	—	2	2
Carter,	—	1	1
Joiner,	—	1	1
Carpenter,	—	1	1
Moulder,	—	1	1
Pattern Maker,	—	1	1
Total,	100	25	125

(3.)

SIZE of MANUAL INSTRUCTION CENTRE recently erected by the BOARD in Winsop Street, Edge Hill, Liverpool.

SIZE of BUILDING—

100 ft. x 40 ft. over all; 12 ft. from floor to eaves.

Referred to in Question 6917—Evidence of Mr. WILLIAM OULSON.

K

(4.)

COST OF MANUAL INSTRUCTION under the LIVERPOOL SCHOOL BOARD for the year ended 30th March, 1897.
Referred to in Question numbered 7206—Evidence of Mr. HANCOX

	Cost.	AMOUNT PER HEAD								
		Accommodation, 1896			No. on Roll, 1897			Average Attendance, 1897.		
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Teachers,	1,880 0 11	0 5 0½	0 8 0½	0 9 0½	0 9 0½	0 9 0½	0 9 0½	0 9 0½	0 9 0½	0 9 0½
Material,	239 10 6	0 0 8½	0 1 1½	0 1 1½	0 1 1½	0 1 1½	0 1 1½	0 1 1½	0 1 1½	0 1 1½
Building,	160 13 0	0 0 5½	0 0 9	0 0 9	0 0 9	0 0 9	0 0 9	0 0 9	0 0 9	0 0 9
Fittings,	67 3 5	0 0 2½	0 0 3½	0 0 3½	0 0 3½	0 0 3½	0 0 3½	0 0 3½	0 0 3½	0 0 3½
Maintenance,	1,903 9 7	0 8 0	0 4 9½	0 4 9½	0 4 9½	0 4 9½	0 4 9½	0 4 9½	0 4 9½	0 4 9½
Totals,	3,150 17 5	0 9 5	0 15 0½	0 15 0½	0 15 0½	0 15 0½	0 15 0½	0 15 0½	0 15 0½	0 15 0½

XXIII.

DOCUMENTS put in by Mr. A. T. BOTT, M.A., Senior Inspector of Schools under the Liverpool School Board.

(3.)

TABLE showing the ACCOMMODATION provided and the NUMBERS ALLOWED ON ROLLS in the SEVERAL DEPARTMENTS of the LIVERPOOL BOARD SCHOOLS.

SCHOOL.	ACCOMMODATION.					Total.
	Boys Boys' or Boys'	Boys Girls' or Girls'	Boys (Boys' or Girls' or Mixed)	Infants.	Infants.	
Anfield Road,	336	336	M. 336	—	375	1383
Arnot Street,	330	334	B. 330	G. 360	418	2472
Upper Section,	350	350	M. 350	—	—	—
Ashfield Street,	207	173	M. 228	—	428	1035
Beaufort Street,	480	346	M. 342	—	592	1760
Baile Street,	198	160	M. 340	—	337	1095
Chesham Street,	315	260	M. 350	—	408	1331
Clint Road,	275	248	M. 275	—	383	1180
Daisy Street,	280	246	M. 280	—	318	1124
Earle Road,	280	250	M. 280	—	324	1134
* Orwell Road,	—	—	B. 350	—	—	—
* Do., Girls and Infants,	—	—	—	283	—	283
Graham Street,	230	240	M. 280	—	324	1144
Graham Road,	280	242	M. 280	—	310	1112
Harrington,	265	276	M. 285	—	340	1146
Hayworth Street,	300	300	M. 300	—	412	1312
Leamford Lane,	280	238	M. 280	—	300	1088
North Corporation,	312	437	B. 216	—	540	1506
Northcote Road,	332	278	M. 312	—	338	1279
Queen's Road,	195	194	M. 290	—	368	1065
Roscommon Street,	265	238	—	—	316	819
Stanley Road,	340	233	M. 340	—	326	1248
Steyn Street,	330	275	M. 334	—	380	1309
Upper Park Street,	336	242	M. 334	—	360	1371
Walton Lane,	348	229	B. 184	G. 222	317	1320
William Henry Street,	387	245	—	—	303	906
Boys' Mixed,	—	—	—	—	—	—
Bray Street,	420	—	M. 420	—	459	1580
Rathbone,	509	—	M. 250	—	330	1079
Sefton Park,	510	—	M. 270	—	324	1104
Vernon Street,	480	—	M. 240	—	329	1049
Webster Road,	310	—	M. 310	—	536	806
Mixed,	—	—	—	—	—	—
454	—	—	—	—	—	—
610	—	—	—	—	—	—
Manant Street,	—	—	—	—	319	773
St. Michael's Hamlet,	—	—	—	—	334	844
* York Terrace, Junior Girls and Infants,	—	—	—	—	—	359
* Bala Street, Mixed and Infants,	—	—	—	—	—	163
* Wilson Street, Boys,	—	—	—	—	—	169
* Bankfield,	—	—	—	G. 300	—	200
* Fontaine Road,	—	—	B. 290	—	—	290

* Schools marked thus (*) are temporary schools which will shortly be replaced by permanent accommodation.

(2.)
LIVERPOOL SCHOOL BOARD.—BOYS.

TIME TABLE.

DAVID BENNETT SCHOOL, MUSIC DEPARTMENT, YVAN 1997.

[illegible]

ANALYSIS of above Table, showing Number of Minutes per Week allotted to each Subject,

Echocardiographic	Standard					Echocardiographic	Standard				
	VIL	VL	V	IV	IL		VIL	VL	V	IV	IL
40 (100%)	200	200	200	200	200	40 (100%)	200	200	200	200	200
30 (75%)	200	200	200	200	200	30 (75%)	200	200	200	200	200
20 (50%)	200	200	200	200	200	20 (50%)	200	200	200	200	200
10 (25%)	200	200	200	200	200	10 (25%)	200	200	200	200	200
5 (12.5%)	200	200	200	200	200	5 (12.5%)	200	200	200	200	200
0 (0%)	200	200	200	200	200	0 (0%)	200	200	200	200	200

The 15 minutes before bedtime at ordinary school hours.

APPENDIX A.
CONT.(3)
LIVERPOOL SCHOOL BOARD—GIRLS.TIME TABLE,
BRAS STREET SCHOOL, MINDS DEPARTMENT. Year 1897.

16-05-98		9-10-97	16-10-97	23-10-97	30-10-97	06-11-97	13-11-97	20-11-97	27-11-97	04-12-97	11-12-97	18-12-97	25-12-97	01-01-98	08-01-98	15-01-98	22-01-98	29-01-98	05-02-98	12-02-98	19-02-98	26-02-98	05-03-98	12-03-98	19-03-98	26-03-98	02-04-98	09-04-98	16-04-98	23-04-98	30-04-98	07-05-98	14-05-98	21-05-98	28-05-98	04-06-98	11-06-98	18-06-98	25-06-98	02-07-98	09-07-98	16-07-98	23-07-98	30-07-98	06-08-98	13-08-98	20-08-98	27-08-98	03-09-98	10-09-98	17-09-98	24-09-98	01-10-98	08-10-98	15-10-98	22-10-98	29-10-98	05-11-98	12-11-98	19-11-98	26-11-98	03-12-98	10-12-98	17-12-98	24-12-98	31-12-98	07-01-99	14-01-99	21-01-99	28-01-99	04-02-99	11-02-99	18-02-99	25-02-99	03-03-99	10-03-99	17-03-99	24-03-99	31-03-99	07-04-99	14-04-99	21-04-99	28-04-99	05-05-99	12-05-99	19-05-99	26-05-99	02-06-99	09-06-99	16-06-99	23-06-99	30-06-99	07-07-99	14-07-99	21-07-99	28-07-99	04-08-99	11-08-99	18-08-99	25-08-99	01-09-99	08-09-99	15-09-99	22-09-99	29-09-99	06-10-99	13-10-99	20-10-99	27-10-99	03-11-99	10-11-99	17-11-99	24-11-99	01-12-99	08-12-99	15-12-99	22-12-99	29-12-99	05-01-00	12-01-00	19-01-00	26-01-00	02-02-00	09-02-00	16-02-00	23-02-00	01-03-00	08-03-00	15-03-00	22-03-00	29-03-00	05-04-00	12-04-00	19-04-00	26-04-00	03-05-00	10-05-00	17-05-00	24-05-00	31-05-00	07-06-00	14-06-00	21-06-00	28-06-00	05-07-00	12-07-00	19-07-00	26-07-00	02-08-00	09-08-00	16-08-00	23-08-00	30-08-00	06-09-00	13-09-00	20-09-00	27-09-00	04-10-00	11-10-00	18-10-00	25-10-00	01-11-00	08-11-00	15-11-00	22-11-00	29-11-00	06-12-00	13-12-00	20-12-00	27-12-00	03-01-01	10-01-01	17-01-01	24-01-01	31-01-01	07-02-01	14-02-01	21-02-01	28-02-01	06-03-01	13-03-01	20-03-01	27-03-01	03-04-01	10-04-01	17-04-01	24-04-01	01-05-01	08-05-01	15-05-01	22-05-01	29-05-01	05-06-01	12-06-01	19-06-01	26-06-01	03-07-01	10-07-01	17-07-01	24-07-01	31-07-01	07-08-01	14-08-01	21-08-01	28-08-01	04-09-01	11-09-01	18-09-01	25-09-01	02-10-01	09-10-01	16-10-01	23-10-01	30-10-01	06-11-01	13-11-01	20-11-01	27-11-01	04-12-01	11-12-01	18-12-01	25-12-01	01-01-02	08-01-02	15-01-02	22-01-02	29-01-02	05-02-02	12-02-02	19-02-02	26-02-02	03-03-02	10-03-02	17-03-02	24-03-02	31-03-02	07-04-02	14-04-02	21-04-02	28-04-02	05-05-02	12-05-02	19-05-02	26-05-02	02-06-02	09-06-02	16-06-02	23-06-02	30-06-02	07-07-02	14-07-02	21-07-02	28-07-02	04-08-02	11-08-02	18-08-02	25-08-02	01-09-02	08-09-02	15-09-02	22-09-02	29-09-02	06-10-02	13-10-02	20-10-02	27-10-02	03-11-02	10-11-02	17-11-02	24-11-02	01-12-02	08-12-02	15-12-02	22-12-02	29-12-02	05-01-03	12-01-03	19-01-03	26-01-03	02-02-03	09-02-03	16-02-03	23-02-03	01-03-03	08-03-03	15-03-03	22-03-03	29-03-03	05-04-03	12-04-03	19-04-03	26-04-03	03-05-03	10-05-03	17-05-03	24-05-03	31-05-03	07-06-03	14-06-03	21-06-03	28-06-03	05-07-03	12-07-03	19-07-03	26-07-03	02-08-03	09-08-03	16-08-03	23-08-03	30-08-03	06-09-03	13-09-03	20-09-03	27-09-03	04-10-03	11-10-03	18-10-03	25-10-03	01-11-03	08-11-03	15-11-03	22-11-03	29-11-03	06-12-03	13-12-03	20-12-03	27-12-03	03-01-04	10-01-04	17-01-04	24-01-04	31-01-04	07-02-04	14-02-04	21-02-04	28-02-04	06-03-04	13-03-04	20-03-04	27-03-04	03-04-04	10-04-04	17-04-04	24-04-04	01-05-04	08-05-04	15-05-04	22-05-04	29-05-04	05-06-04	12-06-04	19-06-04	26-06-04	03-07-04	10-07-04	17-07-04	24-07-04	31-07-04	07-08-04	14-08-04	21-08-04	28-08-04	04-09-04	11-09-04	18-09-04	25-09-04	02-10-04	09-10-04	16-10-04	23-10-04	30-10-04	06-11-04	13-11-04	20-11-04	27-11-04	04-12-04	11-12-04	18-12-04	25-12-04	01-01-05	08-01-05	15-01-05	22-01-05	29-01-05	05-02-05	12-02-05	19-02-05	26-02-05	03-03-05	10-03-05	17-03-05	24-03-05	31-03-05	07-04-05	14-04-05	21-04-05	28-04-05	05-05-05	12-05-05	19-05-05	26-05-05	02-06-05	09-06-05	16-06-05	23-06-05	30-06-05	07-07-05	14-07-05	21-07-05	28-07-05	04-08-05	11-08-05	18-08-05	25-08-05	01-09-05	08-09-05	15-09-05	22-09-05	29-09-05	06-10-05	13-10-05	20-10-05	27-10-05	03-11-05	10-11-05	17-11-05	24-11-05	01-12-05	08-12-05	15-12-05	22-12-05	29-12-05	05-01-06	12-01-06	19-01-06	26-01-06	02-02-06	09-02-06	16-02-06	23-02-06	01-03-06	08-03-06	15-03-06	22-03-06	29-03-06	05-04-06	12-04-06	19-04-06	26-04-06	03-05-06	10-05-06	17-05-06	24-05-06	31-05-06	07-06-06	14-06-06	21-06-06	28-06-06	05-07-06	12-07-06	19-07-06	26-07-06	02-08-06	09-08-06	16-08-06	23-08-06	30-08-06	06-09-06	13-09-06	20-09-06	27-09-06	04-10-06	11-10-06	18-10-06	25-10-06	01-11-06	08-11-06	15-11-06	22-11-06	29-11-06	06-12-06	13-12-06	20-12-06	27-12-06	03-01-07	10-01-07	17-01-07	24-01-07	31-01-07	07-02-07	14-02-07	21-02-07	28-02-07	06-03-07	13-03-07	20-03-07	27-03-07	03-04-07	10-04-07	17-04-07	24-04-07	01-05-07	08-05-07	15-05-07	22-05-07	29-05-07	05-06-07	12-06-07	19-06-07	26-06-07	03-07-07	10-07-07	17-07-07	24-07-07	31-07-07	07-08-07	14-08-07	21-08-07	28-08-07	04-09-07	11-09-07	18-09-07	25-09-07	02-10-07	09-10-07	16-10-07	23-10-07	30-10-07	06-11-07	13-11-07	20-11-07	27-11-07	04-12-07	11-12-07	18-12-07	25-12-07	01-01-08	08-01-08	15-01-08	22-01-08	29-01-08	05-02-08	12-02-08	19-02-08	26-02-08	03-03-08	10-03-08	17-03-08	24-03-08	31-03-08	07-04-08	14-04-08	21-04-08	28-04-08	05-05-08	12-05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XXIV.

APPENDIX A.
XXIV.

DOCUMENTS put in by Mr. J. LOMAS, Science Instructor to the Liverpool School Board.

(1.)

MECHANICS—STILLANTS—STAGE I.

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| 1. Matter, and some of its properties—Weight. | 17. Expansion of liquids by heat—Thermometer. |
| 2. Classification of bodies into solids, liquids, gases, fluids. | 18. Conversion of liquids into gases and solids. |
| 3. General properties of solids. | 19. General properties of gases. |
| 4. Structure of solids. | 20. Pressure of the air. |
| 5. Hardness. | 21. Air pump. |
| 6. Effects of heat on solids. | 22. Barometer. |
| 7. Measurement of length. | 23. Siphon. |
| 8. Measurement of area and volume—Plane surface. | 24. Pumps. |
| 9. General properties of liquids. | 25. Effects of heat on gases. |
| 10. Surface of liquids—Spirit level. | 26. General relations between solids, liquids, and gases. |
| 11. Capillary phenomena. | 27. Porosity. |
| 12. Pressure of liquids. | 28. Elasticity. |
| 13. Specific gravity of liquids. | 29. Tensile, ductility, and malleability. |
| 14. Buoyancy of liquids. | 30. Instruments employed for measuring time. |
| 15. Specific gravity of solids. | 31. Measurement of uniform velocity. |
| 16. Floating bodies—Principle of hydrometer. | 32. General revision. |
| | 33. " " |

MECHANICS—STILLANTS—STAGE II.

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| 1. Introductory lesson on Force. | 9. Weight, gravitation, measure of force. |
| 2. Inertia of bodies at rest. | 10. Centre of gravity. |
| 3. Inertia of bodies in motion. | 11. Falling bodies; absolute measure of force. |
| 4. Mass and momentum. | 12. Pendulum. |
| 5. Representation of a force; composition of forces. | 13. Friction. |
| 6. The second law of motion. | 14. Work and its measurement. |
| 7. The third law of motion. | 15. Energy. |
| 8. The force of gravity. | 16. Kinetic and potential energy. |
| | 17. Revision. |

MECHANICS—SYLLABUS—STAGE III.

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| 1. Force and matter. | 1. Composition—Resolution of forces and velocities. |
| 2. Description and representation of force. | 2. Parallelogram of forces and velocities. |
| 3. Pressure of liquids due to gravity. | 3. Machines. |
| 4. Transmission of pressure by liquids—Hydrostatic press. | 4. Lever. |
| 5. Work and its measurement. | 5. Applied lever. |
| 6. Composition and resolution of forces. | 6. Wheel and axle. |
| 7. Parallelogram of forces and velocities. | 7. Principle of work (compound levers and compound wheel and axle). |
| 8. Machines. | 8. Pulley. |
| 9. The straight lever and its varieties. | 9. Compound pulleys. |
| 10. Applications of the lever. | 10. Inclined plane. |
| 11. The wheel and axle. | 11. Wedge and screw. |
| 12. The pulley. | 12. Pressure of liquids due to gravity—Transmission of pressure by liquids. |
| 13. Combinations of pulleys—Compound machines. | 13. Hydrostatic press. |
| 14. The inclined plane. | |
| 15. The wedge and screw. | |
| 16. Revision—Machines. | |
| 7. Revision—Liquids. | |

(2.)

DOMESTIC ECONOMY—SYLLABUS—FIRST STAGE.

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|---|---|
| 1. Food, its uses and varieties. | 14. Functions of clothes. |
| 2. Carbon. | 15. New materials of clothing and their manufacture. |
| 3. Oxygen. | 16. Hard and soft water. |
| 4. Hydrogen and Nitrogen. | 17. Soap, soda, and bleaching. |
| 5. Carbonaceous food-stuffs—Fat. | |
| 6. Starch. | |
| 7. Sugar. | |
| 8. Nitrogenous food-stuffs—Albumen. | |
| 9. Gluten and fibrin. | SUBJECTS FOR SPECIAL LESSONS BY TEACHERS. |
| 10. Casein, legumin, and gelatin. | Description of various foods, with special reference to source and use. |
| 11. Water as a food. | Description of various clothing materials and their uses. |
| 12. Salt and other mineral foods. | Cleaning clothes. |
| 13. Proximate composition of milk, meat, bread, potatoes, eggs. | |

DOMESTIC ECONOMY—STILLANTS—SECOND STAGE.

APPENDIX A.
XXIV.

- | | |
|---|--|
| 1. General functions of food. | 13. Materials used as fuel. |
| 2. Nitrogenous food stuffs and their functions. | 14. Manufacture and use of coal gas. |
| 3. Carbonaceous. | 15. Principles of production and distribution of heat. |
| 4. Mineral. | 16. Various methods of warming buildings. |
| 5. Chief materials used in construction of houses. | 17. Proximate composition and uses of several important foods. |
| 6. Situation of the house, drainage, &c. | |
| 7. Composition and properties of pure water. | |
| 8. Services and storage of water supply. | |
| 9. Simple methods of testing and purifying water for domestic purposes. | |
| 10. Composition of the air. | |
| 11. Changes in the air produced by respiration and combustion. | |
| 12. Principles of ventilation. | |

SUBJECTS FOR SPECIAL LESSONS BY TEACHERS.

Cleaning of the dwelling, furniture, &c.

DOMESTIC ECONOMY—THIRD STAGE—GIRLS, VI. and VII.

- | | |
|--|---|
| 1. General functions of food. | 10. The dwelling in its relation to health. |
| 2. Objects and methods of cooking food. | 11. Drainage. |
| 3. Principles of heat involved in boiling, roasting, and baking. | 12. Functions of the skin, and necessity for cleanliness. |
| 4. Changes in starch and albumen produced by heat. | 13. Exercise and rest. |
| 5. Digestion—simple rules for health relating to food. | 14. General causes of disease. |
| 6. Water as a food. | 15. Infectious diseases. |
| 7. Composition of air—changes produced by respiration. | 16. Precautions for preventing the spread of infectious diseases. |
| 8. Necessity for, and means of obtaining pure air. | 17. General laws of health. |
| 9. Functions of clothing—clothing as it affects health. | |

SUBJECTS FOR SPECIAL LESSONS BY TEACHERS.

Choice, preparation, and cooking of food.
Management of sick room.

DOMESTIC ECONOMY—THIRD STAGE—GIRLS, VII.

- | | |
|------------------------------------|------------------------------|
| 1. Food, digestion, cooking. | 6. Laws of Health—the house. |
| 2. Boiling, baking, roasting. | 7. Do. exercise and rest. |
| 3. Changes in food stuffs by heat. | 8. Infectious diseases. |
| 4. Laws of health—food, water. | 9. Disinfectants. |
| 5. Do. air, clothing. | |

XXV.

DOCUMENTS put in by MISS FANNY CALDER, President of the Committee of the Northern School of Cookery.

LIVERPOOL TRAINING SCHOOL OF COOKERY.

(Technical College for Women).

(1.)

SYLLABUS of TWENTY LAUNDRY LESSONS for TECHNICAL CLASSES.

	LESSONS.
Flannels, 3 kinds. Stockings. Shawls. Art Serge Tablecloths. Delaine Garments. Blankets. Cuffs and Collars. Silk Gloves.	<p>I.—DEMONSTRATION.—Washing of Flannels, white, coloured, and Jagger Stockings—woollen and cotton. Shawls—woven and knitted. Art Serge Tablecloths. Delaine and Nans' Velling Garments. Blankets Wash, starch, iron, and polish. Cuffs and Collars, Silk Gloves and Stockings (white and coloured).</p> <p>INSTRUCTION in the special use of medical soap, salt, vinegar, ammonia, gum water, cold starch, bonax, and turpentine. Preparation for wash. Care and use of flat and polishing irons.</p>
	II.—PRACTICE
	III.—PRACTICE
Table Linen. Prints, Ginghams. Zephyrs. Calendering Chints. Cretonne. Crewel Work.	<p>IV.—DEMONSTRATION.—Washing, starching and ironing of Table Linen. Prints—dark and light. Ginghams and Zephyrs. Special treatment of dark blue Prints. Calendering Chints. How to get up Cretonne and Crewel Work.</p> <p>INSTRUCTION.—Removing of Stains—tea, coffee, fruit, wine, paint, iron mould, and mudlow. Making and use of Hot Starch, use of Tallow or Wax, Sine, Brax. Use and care of Utensils—cups, bowls, baskets, linen, and paps.</p>
	V.—PRACTICE
	VI.—PRACTICE
Bonnet. Body, Bed, and Household Linen. Sun Bonnets. Handkerchiefs. Bath Towels. Paraffin Washing.	<p>VII.—DEMONSTRATION.—Washing, starching, and ironing a Bonnet. Washing and getting up of Body, Bed, and Household Linen, and Sun Bonnets. Washing of Handkerchiefs—plain and fancy. Paraffin washing and Bath Towels.</p> <p>INSTRUCTION.—Rules for drying, folding, and pressing clothes. The use of Fancy Items—Egg and Indian Lace Pinner. Use and care of Disinfectants. Advantages of Paraffin in Washing.</p>
	VIII.—PRACTICE
	IX.—PRACTICE
Shirt, Dress Tie. Muslin, two kinds. Lace, Chiffon. Black Lace.	<p>X.—DEMONSTRATION.—Washing, starching, ironing, and pressing a Shirt and Dress Tie. Washing and ironing Muslin—white and coloured. Lace—plain and gathered. Chiffon. Removing black Lace.</p> <p>INSTRUCTION.—Points to aim at in washing clothes. Disadvantages in the use of chemicals. Making and use of gum water. Care and arrangement of Wash house.</p>
	XI.—PRACTICE
	XII.—PRACTICE

(2.)

SYLLABUS of a COURSE of TWELVE LESSONS in HOME-DESK-CUTTING for TECHNICAL CLASSES.

Measurements.	I.—Explanation of measurements. Pupils' measurements taken and corrected. Construction lines for bodice.
Construction Lines.	II.—Continuation of back and side pieces.
Back. Side Pieces	III.—Drafting of front of bodice.
Front	IV.—Pattern of sleeves.
Sleeve	V.—Cutting out skirt in lining and material.
Skirt.	VI.—Tacking and making up of skirt, including pocket, placket hole, etc.
Bodice	VII.—Cutting out of bodice in lining and material.
Tacking. Fitting. Button-holes.	VIII.—Tacking of bodice, fitting, making button-holes.
Stitching. Pressing. Overcasting. Boning	IX.—Stitching, pressing, overcasting, and boning of bodice.
Sleeves. Collar.	X.—Making of sleeves and collar.
Fitting. Stitching.	XI.—Fitting and stitching of sleeves and collar.
Notes.	XII.—General finish, notes, etc.

(3.)

SYLLABUS of TEN COOKERY LESSONS given in ELEMENTARY SCHOOLS.

Specimen Dishes suitable for Children's Classes.	
LESSON I. Exeter Stew. Irish Stew. Sea Pie. Rice Mould. Cornflour Mould. Stewed Fruit.	I. STEWING.—Definition of cookery. Definition of true economy. The principal methods of cooking. The means of cooking. Heat, dry and moist. Fires. Cleaning of cooking utensils. Use of acids, soap, black- lead, bath-brick, whitening, &c. (Rhymes on cooking meat, vers. 3, 4, 5).
LESSON II. Stewed Beef and Vegetables. Boiled or Baked Potatoes. Rice Pudding.	II. A SPECIMEN DINNER.—Classification of foods as flesh- forming, heat-giving, bone-making (nitrogenous, carbonaceous, mineral). Examples of each drawn from lesson. Importance of combinations.
LESSON III. Beef Steak Pie. Cornish Pasties, Jam Puffs. Syrup Tart.	III. STEWING IN OVEN.—MEATS.—Pastry, kinds of meat, beef, mutton, pork, &c. Food value of each. Choice of meat. Preserved foods.
LESSON IV. Fried Potatoes. Fish Cakes. Baked Herrings. Stuffed Haddock.	IV. FRYING.—FISH.—Classes of fish, oily and white. Molluscs. Treatment and value of fish compared with that of meat. Choice of fish. When in season. (Rhymes on cooking meat, vers. 13, 14, 17. Rhymes on cooking fish).
LESSON V. Carrots. Cabbage. Potatoes, Onions and Asparagus. Fruit Pie. Baked Apples. Stewed Fruit.	V. BOILING.—VEGETABLES AND FRUITS.—Bone-making and blood-purifying foods. Compare treatment of green and root, leaf and flower, pod and stalk vegetables. Salads.
LESSON VI. Beefsteak Pudding. Treacle or Bread Puddings. Roly Poly. Boiled Fruit Puddings. Milk Puddings. Scott Puddings.	VI. STEAMING AND BOILING.—PUDDINGS.—Naturally and artificially perfect foods. Pharmacopoeia foods. Substitutes for meat (Rhymes on cooking meat, vers. 9, 10, 11).

SYLLABUS of THE COOKERY LESSONS given in ELEMENTARY SCHOOLS—continued.

<p>LESSON VII. Egyptian Lentil or Potato Soup. Broth and Boiled Mutton Parsley Sauce.</p>	<p>VII. SOUPS.—The stockpot Economy in food Liquid foods. Value and treatment of pulse, such as lentils, peas, haricot beans, &c.</p>
<p>LESSON VIII. Brown and White Bread. Milk Rolls. Scones. Rock Cakes. Caroline Cake.</p>	<p>VIII. BAKING.—BREAD AND CHEAP CAKE MAKING.— Yeast. Baking soda and powder. Value of dried fruits and vegetables. Management of ovens.</p>
<p>LESSON IX. Boat Tea. Steamed Fish. Boiled Egg. Arrowroot. Invalids/Custard. Irish Moss Jelly. Gruel. Barley Water. Linseed Tea. Lemonade.</p>	<p>IX. INVALID AND CONVALESCENT COOKERY.— CHILDREN'S FOOD.—Digestion and indigestion. Adaptation of food to age, climate, season, occupation. How to feed sick people. House hygiene.</p>
<p>LESSON X. Liver and Bacon. Tripe. Stuffed Heart. Fish Pudding. Meat Balls. Meat and Potato Pie. Cottage Pie. Rice and Cheese.</p>	<p>X. CHEAP AND COLD MEAT COOKERY.—Liver, tripe, heart, &c. Fish puddings. Meat balls, &c. Care of sinks, drains, utensils. General principles of housekeeping and house cleaning.</p>

Each Lesson includes exercise on the cost of materials used, and rules for marketing, with Blackboard Sketch of their value as foods, etc., etc.

Demonstration Lessons consist of three or more dishes. Practice Lessons of not less than two.

(4.)

SYLLABUS of TWELVE COOKERY LESSONS given in TECHNICAL CLASSES.

<p>Specimen Dishes suitable for Technical Classes.</p>	
<p>SOUPS.—Tomato, Carrot, Celery, Potato, Vegetable, Cream, Lentil, Brown, Chaudfroid, Kidney.</p>	<p>I.—STEWING.—Definition of cookery. Definition of true economy. The principal methods of cooking. The means of cooking. Heat, dry and moist. Fire.—Cleaning of cooking utensils. Use of soda, soap, blacklead, bath-brick, whitening, &c.</p>
<p>FISH.—Stuffed Haddock, Baked Mackerel, Filleted Hake, Baked Hake and Tomatoes, Cod Steaks, Stuffed Plaice, Filleted Plaice, Poached Herrings, Mackerel à la Normande, Lobster Cakes.</p>	<p>II.—A SPECIMEN DINNER.—Classification of foods as flesh- forming, heat-giving, bone-making (nitrogenous, carbonaceous, mineral). Examples of each drawn from lesson. Importance of combination.</p>
<p>MEAT.—Stuffed Breast of Mutton, Roasted Steak, Beef Olives, Stewed Beef, Haricot, Mutton Cutlets, Curry, Rabbits.</p>	<p>III.—STEWING IN OVEN.—MEATS.—Pastry, kinds of meat, beef, mutton, pork, &c. Food value of each. Choice of meat. Preserved foods.</p>
<p>PASTRY.—Beef Steak Pie, Beef Steak Pudding, Rabbit Pie, Roasted Pies, Sausage Rolls, Cornish Pasties, Fruit Tarts, Roly-poly, Open Tarts, Cheese Cakes.</p>	<p>IV.—FRYING.—FISH.—Classes of fish, oily and white. Molluscs. Treatment and value of fish compared with that of meat. Choice of fish. When in season.</p>
<p>PUDDINGS.—Steamed, Baked, Boiled, Suet, Milk, Fruit.</p>	<p>V.—BOILING.—VEGETABLES AND FRUITS.—Bone-making and blood-purifying foods. Compare treatment of green and root, leaf and flower, pod and stalk vegetables. Salads.</p>
<p>BREAD AND CAKES.—White, and Brown Bread, Tea Cakes, Sally Lunas, Rolls, Scones, Rice Cakes, Lemon, Raspberry, London and Scotch Buns, Sandwich Cakes, Swiss Roll, Finger Scones.</p>	<p>VI.—STEAMING AND BOILING.—PUDDINGS.—Naturally and artificially perfect foods. Farinaceous foods. Substitutes for meat.</p> <p>VII.—SOUPS.—The stockpot Economy in food. Liquid foods. Value and treatment of pulse, such as lentils, peas, haricot beans, &c.</p> <p>VIII.—BAKING.—BREAD AND CHEAP CAKE MAKING.— Yeast. Baking soda and powder. Value of dried fruits and vegetables. Management of ovens.</p>

SYLLABUS of TWELVE COOKERY LESSONS given in TECHNICAL CLASSES—continued

APPENDIX A.
XXV.

SWEETS AND SAVOURIES.—

Junkets, Custards, Canadian Bismarcks, Gooseberry Fool, Economical Trifle, Mince-meat, Macaroni and Cheese, Cheese Pudding, Creamed Eggs, Scotch Eggs, Stuffed Tomatoes, Potato Rolls, Kedgeree, Crisped Potatoes, Salad, Savoury Mould, Rissoles, Fish Pudding, Fish Pie, Fish Cakes, Durham Cakes, Meat Cakes, Curry, American Mince.

INVALID COOKERY, &c.—Beef Tea, Mince Chops, Grilled Chop, Arrowroot, Custard, Irish Moss Jelly, Orange Jelly, Beverages, Sausage Puddings, Eggs.

IX.—INVALID AND CONVALESCENT COOKERY.—CHILDREN'S FOOD.—Digestion and indigestion. Adaptation of food to age, climate, means, occupation. How to feed sick people. Home hygiene.

X.—SAVOURIES AND SWEETS.—Use of eggs, bacon, kidneys. Cold fish. Tomatoes. Onions, sweet and savoury.

XI.—CHEAP AND COLD MEAT COOKERY.—Liver, tripe, heart, &c. Fish puddings. Meat balls, &c. Care of sinks, drains, utensils. General principles of housekeeping and house cleaning.

XII.—BROILING AND BRAISING.—Chops and steaks. Bristled beef or veal. Gravies and sauces. Garnishing. Dainty serving. Butter, baked and fried.

At least Three Demonstrations are given in each Course of Twelve Lessons.

Demonstration Lessons consist of three or more dishes. Practice Lessons of not less than two.

XXVI.

DOCUMENTS put in by Mr. WILLIAM NELSON, Superintendent of Manual Instruction to the Manchester School Board.

(L)

APPENDIX A.
XXVI.

MEMORANDUM ON MANUAL INSTRUCTION under the MANCHESTER SCHOOL BOARD.

Number of Schools in which Manual Instruction is taught.

18 Elementary Day Schools.

5 Organised Science Schools.

(Classes for the Training of Teachers (see Time Table herewith).)

Time at which Manual Instruction is taken.

In connection with Elementary Day Schools the instruction is given out of school hours.

In the Organised Science Schools the instruction is given during school hours.

Teachers.

A staff of five regular teachers do the work in connection with the Organised Science Schools.

In connection with the Elementary Schools the ordinary teachers connected with the schools teach the subject where possible, that is, where there are qualified teachers of Manual Instruction on the staff.

In some cases the head masters themselves teach it.

The teachers of Manual Instruction have all been specially trained for the work by the Superintendent of Manual Instruction.

Two or three artisan instructors are employed.

Number of boys taught by one teacher at a time.

Twenty boys form the maximum number for one teacher.

Fittings.

The Manual rooms are fitted with single benches.

A room, thirty-two feet by twenty-four feet, gives sufficient space for twenty benches.

Cost of fittings.

A room fitted up with twenty benches and a complete set of tools costs altogether about £10.

If only one batch of boys used this room the cost of fitting up per head would be £3 10s., but generally four to twelve batches use the room.

Cost of timber.

The average cost per scholar comes to about two shillings per year.

For drawing material 3d. a year per scholar.

Scheme of Manual Instruction.

The scheme of Manual Instruction is educational as opposed to technical.

It may be said to be based, in regard to the series of models, on an adaptation of the principles of Lloyd teaching to the best traditions of English workshop practice.

Class teaching is only employed in drawing and demonstration lessons.

The teaching at the bench is individual.

No assistance whatever is given to the student beyond the demonstration of proper methods of work.

A high standard of finish and accuracy is insisted upon, and in order to make this possible the models are carefully graduated both in regard to drawing and bench work.

The models when made and approved become the property of the student.

The method of instruction is by drawing, demonstration, and bench work.

Each boy makes a dimensional drawing, in plan and elevation, of the object he has to make, in a book large enough to hold a year's work.

The model is then made before him, and at the same time a simple account is given of the theory of the construction of tools, and the structure and growth of timber. The bench work is then all done from the boy's own drawing and notes, the teacher simply intervening occasionally to correct improper methods of work.

The course of instruction is arranged to cover three years.

The Elementary School course is somewhat simpler than that for Organised Science Schools.

In the advanced, or third year science course, one or two models connected with the instruction in Practical Physics have been included, and have proved both instructive and popular, but too wide an application of this idea would eventually interfere with the educational character of Manual Instruction.

(See printed Course herewith)

BOYS' MANUAL

FIRST YEAR'S

ELEMENTARY BOYS				
No.	Name of Model.	Size.	Timber.	Drawing.
1	Painted Block,	12" x 8" x 4"	Yellow Pine.	Side and Edge Views.
2	Paint Label,	8" x 12" x 4"	"	Side and Edge Views and Isometrical Cube.
3	Sawing Exercise,	12" x 12" x 8"	"	Plan and Elevation and Isometrical Sketch.
4	Door Frame,	12" x 8"	"	Plan and Elevation.
5	Cross Joint,	8" x 12" x 8"	"	Plan and Elevation and Isometrical Sketch.
6	Octagonal Frame,	8" x 12"	"	Plan and Elevation.
7	Bevelled Block,	12" x 8"	"	Working Drawing in Stages.
8	Bevelled Block,	12" x 8"	Boxwood.	Plan and Elevation.
9	Tree Joint,	8" x 12" x 8"	Yellow Pine.	Plan and Elevation and Isometrical Sketch.
10	Bevelled and Notched Cross,	8" x 12" x 8"	"	Plan and Elevation.

SECOND YEAR'S

No.	Name of Model.	Size.	Timber.	Drawing.
1	Marking Exercise,	12" x 12" x 12"	Yellow Pine.	Plan and Elevation and Isometrical Sketch.
2	Desk Tray,	12" x 12" x 8"	Satin Walnut.	Plan and Elevation and Working Drawing.
3	Bevelled and Bevelled Cross,	8" x 12" x 8"	Yellow Pine.	Plan and Elevation and Isometrical Sketch.
4	Bevelled Peg,	8" x 12" x 8"	Boxwood.	Side and Edge and End Views.
5	Bevelled The Joint,	8" x 12" x 8"	Yellow Pine.	Plan and Elevation and Isometrical Sketch.
6	Peg Tray,	12" x 12" x 8"	Satin Walnut.	Working Drawing.
7	Bevelled Joint,	8" x 12" x 12"	Yellow Pine.	Plan and Elevation and Isometrical Sketch.
8	Peg Stand,	12" x 12" x 8"	Satin Walnut.	Plan and Elevation.
9	Marble Joint,	8" x 12" x 12"	Yellow Pine.	Plan and Elevation and Isometrical Sketch.
10	Flower Pot Stand,	12" x 12"	"	Plan and Elevation.

THIRD YEAR'S

No.	Name of Model.	Size.	Timber.	Drawing.
1	Boxing Exercise,	8" x 12"	Yellow Pine.	Plan and Elevation and Open Isometrical Sketch.
2	Box with Divisions,	8" x 12" x 12"	"	Plan and Elevation and View of Bottom.
3	The Square,	12" x 8"	Satin Walnut.	Plan and Elevation and Side View.
4	Twisted Rod,	12" x 8"	Boxwood.	Working Drawing.
5	Marble and Bevelled Frame,	8" x 8"	Yellow Pine.	Plan and Elevation and Side View.
6	Bevelled Joint,	8" x 12"	"	Plan and Elevation.
7	Marble Box,	12" x 12"	"	Working Drawing.
8	Marble,	12" x 12"	Boxwood.	Working Drawing.

SCHOOL BOARD.

APPENDIX A.

S.E.V.

INSTRUCTION COURSES.

COURSE.

SCIENCE BOYS.

No.	Name of Model.	Size.	Timber.	Drawing.
1	Painted Block.	12" x 8" x 4"	Yellow Pine.	Side and Edge Views.
2	Paint Label.	8" x 12" x 1"	"	Side and Edge Views and Isometrical Cube.
3	Moving Rectangle.	12" x 12" x 2"	"	Plan and Elevation and Isometrical Sketch.
4	Open Box.	12" x 12"	"	" " "
5	Cross Joint.	8" x 12" x 2"	"	" " "
6	Octagonal Prism.	8" x 12"	"	" " "
7	Round Block.	12" x 12"	Red Walnut.	Working Drawing and Isometrical Square Prism.
8	Hexagonal Mah.	12" x 8"	Redwood.	Plan and Elevation and Isometrical Hexagonal Prism.
9	Tree Joint.	8" x 12" x 2"	Yellow Pine.	Plan and Elevation and Isometrical Sketch.
10	Notched and Notched Cross.	8" x 12" x 2"	"	" " "
11	Desk Tray.	12" x 24" x 2"	Red Walnut.	Plan and Elevation and Working Drawing.
12	Notched and Dented Box.	8" x 12" x 2"	Yellow Pine.	Plan and Elevation and Isometrical Sketch.

COURSE.

No.	Name of Model.	Size.	Timber.	Drawing.
1	Mortising Exercise.	12" x 12" x 12"	Yellow Pine.	Plan and Elevation and Isometrical Sketch.
2	Block Top.	8" x 12" x 2"	Redwood.	Side and Edge and End Views.
3	Revolving Top Joint.	8" x 12" x 2"	Yellow Pine.	Plan and Elevation and Isometrical Sketch, Open.
4	Box Tray.	12" x 24" x 2"	Red Walnut.	Working Drawing.
5	Bevel Joint.	8" x 12" x 12"	Yellow Pine.	Plan and Elevation and Open Isometrical Sketch.
6	Box Stand.	12" x 12" x 8"	Red Walnut.	Plan and Elevation and Isometrical Sketch, Square Corners.
7	Mortise Joint.	8" x 12" x 12"	Yellow Pine.	Plan and Elevation and Isometrical Sketch, Open.
8	Flange Part Stand.	12" x 12"	"	Plan and Elevation.
9	Bedstead & Bench.	8" x 12" x 12"	"	Plan and Elevation and Isometrical Sketch, Open.
10	Mortising Exercise.	8" x 12"	"	" " "
11	Box with Drawers.	8" x 12" x 12"	"	Plan and Elevation and View of Bottom.
12	The Square.	12" x 12"	Red Walnut.	Plan and Elevation and Side View.

COURSE.

No.	Name of Model.	Size.	Timber.	Drawing.
1	Bevel Top Bench.	8" x 12" x 12"	Yellow Pine.	Plan and Elevation and Isometrical Sketch.
2	Round Block.	12" x 12"	Redwood.	Working Drawing.
3	Mortised and Tenoned Frame.	8" x 8"	Yellow Pine.	Plan and Elevation and Side View.
4	Adjustable Camera Stand.	12"	"	Plan and Elevation.
5	Downsinking Exercise.	8" x 12"	"	Plan and Elevation and Isometrical Sketch.
6	Knife Box.	12" x 12"	"	Working Drawing.
7	Block.	8" x 12"	Redwood.	"
8	Box Tray Stand.	12" x 12"	Red Walnut.	"

(3.)

MANCHESTER SCHOOL BOARD.

MANUAL INSTRUCTION TIME TABLE—ELEMENTARY DAY SCHOOLS.

Name of School.	Monday	Tuesday	Wednesday	Thursday	Friday
1 Ardwick.	4.30 to 6.30 pm	5.30 to 6.30 pm	4.30 to 6.30 pm	4.30 to 6.30 pm	—
2 Ashton Old Road.	—	—	4.30 to 6.30	—	6.30 to 8 pm.
3 Banger Street.	—	—	4.45 to 6.15	5.30 to 6.30 pm.	—
4 Bury Street.	4.30 to 6.30 pm	4.30 to 6.30 pm.	4.30 to 6.30	5.30 to 6.30	4.30 to 6.30 pm.
5 "Carnegie" Street.	—	—	5.30 to 6.30	—	4.45 to 6.30
6 Central.	4.30 to 6.30 pm.	4.30 to 6.30 pm	5.30 to 6.30	4.30 to 6.30 pm.	—
7 Cheetham Hill.	5.0 to 6.0	5.30 to 6.30	5.0 to 6.0	5.30 to 6.30	5.0 to 6.30 pm.
8 Chester Street.	—	—	5.30 to 6.30	5.30 to 6.30	6.30 to 8 pm.
9 Dene Avenue.	4.30 to 6.30 pm	4.30 to 6.30 pm	5.30 to 6.30	—	—
10 Embury Street.	—	—	—	—	6.30 to 8 pm.
11 Johnson Street.	7.0 to 9.0 pm	5.0 to 6.0 pm	4.30 to 6.30 pm	5.0 to 6.30 pm.	4.30 to 6.30
12 Mill Street (Industrial).	—	—	7.0 to 9.0	—	5.0 to 6.30
13 Nelson Street.	4.30 to 6.30 pm.	5.30 to 6.30 pm	4.30 to 6.30 pm.	4.30 to 6.30 pm.	5.30 to 6.30
14 Queens Street.	4.30 to 6.0	4.30 to 6.0	—	—	—
15 St. Nicholas.	5.30 to 6.30	5.30 to 6.30	—	4.45 to 6.30 pm.	—
16 St. Peter's Road.	4.30 to 6.30	4.30 to 6.30	4.30 to 6.30 pm	5.30 to 6.30	4.30 to 6.30 pm.
17 Upper Jackson Street.	4.45 to 6.15	4.45 to 6.15	—	5.30 to 6.30	—
18 Waterloo Road.	4.30 to 6.30	4.30 to 6.30	4.30 to 6.30 pm.	4.30 to 6.30	4.30 to 6.30 pm.

ORGANISED SCIENCE SCHOOLS.

Name of School.	Monday	Tuesday	Wednesday	Thursday	Friday
1 Ardwick.	—	2.0 to 4.30 pm.	—	2.0 to 4.30 pm.	—
2 Bury Street.	2.30 to 4.30 pm.	2.30 to 4.30	5.30 to 6.30 pm.	2.30 to 4.30 pm.	—
3 Cheetham.	30.0 am. to 12.0 noon.	10.0 am. to 12.0 noon	30.0 am. to 12.0 noon	10.0 am. to 12.0 noon	30.0 am. to 12.0 noon.
4 Central.	30.0 am. to 12.0 noon.	10.0 .. to 12.0 ..	2.0 pm. to 4.30 pm.	—	30.0 .. to 12.0 ..
5 Dene Avenue.	30.0 am. to 12.0 noon.	—	10.0 am. to 12.0 noon	10.0 am. to 12.0 noon	—

CLASSES FOR THE TRAINING OF TEACHERS.

	Friday.	Saturday.
1 Central Manual Training School.	7 to 9 pm.	9 to 12 noon.

XXVII.

DOCUMENT put in by Mr C COURTENAY HODGSON, Organising Secretary to the Cumberland County Council.

PROSPECTUS OF THE CUMBERLAND AND WESTMORLAND FARM SCHOOLS AT NEWTON RIDGE, NEAR PENRITH.

THE FARM.

The Farm of Newton Ridge, recently taken by the County Councils of Cumberland and Westmorland for the purpose of a Farm School, is pleasantly situated on a slight elevation on the borders of the parishes of Newton Belmy and Penrith, in the County of Cumberland, at a distance of about 1½ miles from Penrith Station on the London and North Western Railway, and is, therefore, in a convenient position for both counties. The farm comprises 116 acres of good land, three-fourths of which is grass,

together with a commodious dwelling-house and good buildings. The house will afford accommodation for a manager and his wife (who will act as mistress), a trained dairy teacher, and twelve resident pupils.

OBJECTS.

The primary object of the institution is to provide instruction for pupils of both sexes in the science and practice of Agriculture, with special reference to Dairy Farming. Analyses and experiments in the use of manure and feeding stuffs will also be carried on.

SCHEDULE

Female pupils will be received from 1st April to the end of October, and males from 1st November to the middle of March. Pupils must not be under sixteen years of age, and must have had a fair general education. The fee for resident pupils from the two counties is 10s. a week for board, lodging (not including washing), and tuition. Pupils from other counties will be admitted, provided there is accommodation, at a fee of £1 per week. Day pupils residing in the neighbourhood of the farm may be admitted at a reduced fee, for tuition only, of 5s. 6d. per week.

Notes—Free Scholarships are offered annually by the County Councils to the sons and daughters of farmers or labourers in the two counties; particulars as to terms and conditions of award may be obtained by application to Mr. C. C. Hodgson, The Courts, Carlisle (Cumberland), or Mr. J. Bateman, Kent Street, Kendal (Westmorland).

A library of standard Agricultural Works is provided, but students are required to purchase their own text-books and note-books.

COURSES OF INSTRUCTION.

Females:

The ordinary course of instruction for female pupils will be of six weeks' duration, commencing 1st of April, followed by similar courses to end of October.

SYLLABUS.

1. Composition of milk, butter, cheese, skim milk, buttermilk, and whey.
2. The feeding and management of dairy cows and calves, the secretion of milk, influences which affect the quantity and quality of milk. The feeding values of food stuffs, rations, and feeding values of skim milk, buttermilk, and whey. Pastures.
3. Milking, milk registering, cream separation and management, butter and soft cheese making.
4. Management and rearing of poultry of various kinds.
5. Farm book-keeping.

Males.

For male pupils the regular course will consist of sixteen weeks, from 1st November to middle of March, but pupils may be admitted for shorter periods under special circumstances.

SYLLABUS.

1. *Farm Chemistry*.—The composition of air, water, soils, and food of plants, and manures. The constituents of foods.
2. *Farm Botany*.—How plants live and grow, farm crops, grasses and the herbage of pastures, weeds, plant diseases and other pests.

3. *Anatomy and Physiology*.—Food digestion, assimilation, circulation, and excretion, and the organs concerned therein. The horse's legs, the cow's udder, wool, farm sanitation.

4. *Principles and Practice of Agriculture*.—(a) The soil, its drainage and cultivation; (b) crops and cropping; (c) manures and manuring, farmyard and artificial; (d) stock rearing and feeding; (e) dairy work.

5. *Farm Book-keeping, Land Measuring, and Farm Memoranda*.

TIME TABLE.

The usual time table will be as follows:—
For Female Pupils. (April to October)

6-30 a.m.	Milking, separating, calf and poultry feeding.
8-0 a.m.	Breakfast. Pupils afterwards make their beds.
9-0 a.m. to 12-30 p.m.	Practical dairy work.
12-30 p.m.	Dinner.

RECESS.

2-0 to 3-30 p.m.	Work in dairy, and calf feeding.	Half-holiday on Saturdays.
3-30 to 4-30 p.m.	Lesson in Lecture Room.	
4-30 p.m.	Tea.	

RECESS.

6-0 p.m.	Milking, separating, calf and poultry feeding.
7-30 to 8-30 p.m.	Private study and preparation.
8-30 p.m.	Supper.
10-0 p.m.	Bed bell.

Lights out at 10-40 p.m.

For Male Pupils. (Winter.)

7-0 a.m.	Milking, separating, and tending cattle.
8-0 a.m.	Breakfast.
9-0 to 11-0 a.m.	Farm science according to syllabus.
11-0 a.m. to 12-30 p.m.	Farm book-keeping and memoranda.

12-30 p.m.	Dinner.
1-30 to 4-30 p.m.	Dairy work twice a week. Land measuring or other outdoor work once a week. Half holiday on Wednesday and Saturday.
4-30 p.m.	Tea.

RECESS.

6-0 p.m.	Milking, separating, and tending stock.
7-0 to 8-30 p.m.	Private study and preparation.
8-30 p.m.	Supper.
10-0 p.m.	Bed bell.

Lights out at 10-30 p.m.

XXVIII.

MEMORANDUM put in by Mr. J. W. SLATER, Director of Art and Manual Instruction to Cumberland County Council.

MANUAL INSTRUCTION.

The following are estimates of the probable cost of equipment of a room for Manual Instruction.—

	£	s	d
"A" for 16, 32, 48, or more boys worked in batches.	21	12	10
"B" for 8 (or more boys if worked in batches).	17	2	0
"C" for 4 (or more boys if worked in batches).	6	9	0

As the tools will last many years under a competent teacher, the whole of the expenses practically

confined to the initial outfit, and the "wear and tear" may be stated to be practically "nil."

The cost of under may be taken to be on the average about one penny per boy per lesson, or a total of about 3s. per boy per school year, if due care be exercised and all unnecessary waste avoided. To this must be added cost of drawing materials. The *Grants of the Science and Art Department* are 2d. per lesson (of two hours), with an additional 20 per cent. if "excellent" is obtained; thus, the grant per boy on this head would yield about 7s. (for "good"), or 8s. 6d. (for "excellent").

Hence, there would be an excess of income over expenditure of about 4s. or 5s. per boy.

APPENDIX A
XXVII.APPENDIX A
XXVIII.

APPENDIX A,
XXVIII.

MANUAL INSTRUCTION.

"A"

ESTIMATE of Minimum Initial Cost of Equipment
for 16 Boys.

	£	s.	d.
Eight benches each for two boys, 25s.,	10	0	0
One grindstone,	0	17	6
One oilstone and oil,	0	2	6
Glue pot, glass sand brush,	0	1	6
One strap,	0	0	9
Brush brushes,	0	1	0
One panel saw,	0	3	6
One bow saw,	0	3	6
One brace,	0	2	6
Bits for same,	0	2	6
Files,	0	3	0
Two pairs wing compasses, 1s. 3d.,	0	2	6
One pair pincers,	0	0	8
One barrel,	0	1	6
Three spokeshaves, 9d.,	0	2	3
One rubate plane,	0	2	0
One trying plane,	0	5	6
Two smoothing planes, 3s.,	0	6	0
Eight mallets, 11d.,	0	7	4
Sixteen rules, 1s.,	0	16	0
Sixteen marking gauges, 6d.,	0	8	0
Sixteen try squares, 1s. 3d.,	1	0	0
Sixteen tenon saws, 2s.,	1	12	0
Sixteen jack planes, 3s. 6d.,	3	16	0
Eight screw drivers, 9d.,	0	6	0
Eight (each) chisels, $\frac{1}{2}$ in., $\frac{3}{4}$ in., $\frac{1}{2}$ in., $\frac{3}{4}$ in.,	0	16	0
1 in., 2s. per set,	0	8	0
Eight hammers, 1s.,	0	8	0
Eight gimlets, 3d.,	0	1	4
One mortice gauge, 3s. 6d.,	0	3	6

*£31 12 10

"B"

ESTIMATE of Minimum Initial Cost of Equipment
for 8 Boys.

	£	s.	d.
Four benches each for two boys, 25s.,	5	0	0
One grindstone,	0	17	6
One oilstone and oil,	0	2	6
Glue pot, glass sand brush,	0	1	6
One strap,	0	0	9
Brush brushes,	0	0	6
One panel saw,	0	3	6
One bow saw,	0	3	6
One brace,	0	2	6
Bits for same,	0	2	6
Files,	0	3	0
One pair wing compasses,	0	1	3

One pair pincers,	0	0	8
One barrel,	0	1	6
Two spokeshaves, 9d.,	0	1	6
One rubate plane,	0	2	0
One trying plane,	0	5	6
One smoothing plane,	0	3	6
Four mallets, 11d.,	0	3	8
Eight rules, 1s.,	0	8	0
Eight marking gauges, 6d.,	0	4	0
Eight try squares, 1s. 3d.,	0	10	0
Eight tenon saws, 2s.,	0	14	0
Eight jack planes, 3s. 6d.,	1	8	0
Four screw drivers, 9d.,	0	3	6
Four (each) chisels, $\frac{1}{2}$ in., $\frac{3}{4}$ in., $\frac{1}{2}$ in., $\frac{3}{4}$ in.,	0	8	0
1 in., 2s. per set,	0	4	0
Four hammers, 1s.,	0	4	0
Four gimlets, 3d.,	0	0	8
One mortice gauge,	0	3	6

†£17 2 0

"C"

ESTIMATE of Minimum Initial Cost of Equipment
for 4 Boys.

	£	s.	d.
One large bench for four workers,	2	5	0
One grindstone,	0	17	6
One oilstone and oil,	0	2	6
Glue pot, glass sand brush,	0	1	6
One strap,	0	0	9
Brush,	0	0	3
One panel saw,	0	3	6
One bow saw,	0	3	6
One brace,	0	2	6
Bits for same,	0	2	6
Files,	0	3	0
Wing compasses, one pair,	0	1	3
One pair pincers,	0	0	8
Barrel,	0	1	6
Spokeshave,	0	0	3
One mallet,	0	0	11
Four rules, 1s.,	0	4	0
Four marking gauges, 6d.,	0	2	0
Four try squares, 1s. 3d.,	0	5	0
Four tenon saws, 2s.,	0	8	0
Four jack planes, 3s. 6d.,	0	16	0
One screw driver,	0	0	9
Two (each) chisels, $\frac{1}{2}$ in., $\frac{3}{4}$ in., $\frac{1}{2}$ in., $\frac{3}{4}$ in.,	0	4	0
1 in., 2s. per set,	0	1	0
One hammer,	0	1	0
One gimlet,	0	0	2
One mortice gauge,	0	3	6

†£6 9 0

APPENDIX A,
XXIX.

XXIX.

MEMORANDUM put in by Dr. J. H. GLADSTONE, F.R.S.

OBJECT TEACHING.

LIST of APPARATUS IN SET referred to in q. 9892 (Evidence, Vol. II.)

1 Pocket knife (2 blades)	1 Porcelain mortar and pestle.
1 Triangular file in handle.	1 Glass prism, assorted glass tubing.
2 Tin basins.	1 Test tube cleaner.
1 Glass spirit lamp and wick.	1 Glass flask.
1 Test tube holder.	2 Glass stirring rods
5 Assorted test tubes.	1 Piece of iron wire gauge.
5 Pieces of iron wire.	1 Glass beaker.
1 (Each) glass pipette and bent tube glass funnel	1 Tobacco pipe.
and three, Litmus paper, magnifying glass in handle.	1 Retort stand with three brass rings
1 Magnet.	5 Watch glasses
1 Test tube stand.	1 Deal box with hinged lid to contain the above
1 Stoneware basin.	set.

*The retail cost for 25 boys would be the same, or there would be worked in two batches, hence the same tools would be available.
 †This set would be sufficient for 40 boys if worked in two batches.
 ‡This set would be sufficient for 4 boys if worked in two batches.

XXX.

APPENDIX A.
XXX.DOCUMENTS put in by Mr. A. HAWCRIDGE, Superintendent of Schools under the BARROW-IN-FURNESS
SCHOOL BOARD.

(1.)

BARROW-IN-FURNESS SCHOOL BOARD.

SCHEME OF WORK FOR INFANT SCHOOLS.

	FIRST YEAR (Children generally 4 years of age).	SECOND YEAR. (Children generally 5 years of age)	THIRD YEAR. (Children generally 6 years of age).
READING . . .	(a) Lettering (their forms and positions, taught by— —singing—laying (Cuts 2) —book O Alphabet —System of Alphabet. (b) Words of 3 letters.	Reading of Book, lessons to be based on word building exercises	Reading of Book, lessons to be based on word building exercises
WRITING . . .	(1) Pencil Drill (2) Copy elements of small letters	(1) Pencil Drill (2) Writing. Lessons to be based on an intelligent distribution of letters	(1) Pencil Drill (2) Writing at Name and Address (3) Transcription from Book. (4) Write Letters from Dictation. (5) See Note on Word Building.
NUMBERS . . .	To be based on Cuts A and B.	To be based on Cuts A, B, and C with Cuts 1A. Also use of Number Patterns and Self Frame	To be based on use of Fitch's Bag, Cuts A, B, C, with Cuts 1A, 1B, 1C.
FORM AND COLOURS . . .	(a) Cut 1—Also compare Form of Ball with Cuts A to line (b) Folding and primary colours— (c) Stick-folding (Cuts 2) (d) Four simple forms to be drawn on plates (Cuts 3)	(a) Cuts 2 with Modelling (Cuts 3B) (b) Book and Tablet laying (Cuts 7 and 8) (c) Cuts 1B (paper folding) (d) Drawing (Cuts 1B) (e) Cuts 11 and 12 (f) Cuts 14 (g) Primary and Secondary Colours.	(a) Modelling (Cuts 3B) (b) Cuts 7, 8, 9, 10, 11, 12, 13. (c) Cuts 13 and 14.
DOM. GAMES, &c.	Simple Games with shaping. Nursery Rhymes with Actions, &c. Simple Exercises commensurate of effects of stamping over sticks &c.	As 4 years; also Manual Drill (free exercises without apparatus, <i>Marching</i>).	Drills with and without Music— (a) Without Apparatus. (b) Bag and Wood Drills (c) May-pole Dance.
STORY AND PICTURE LESSONS	Simple Stories. Conversations on Pictures (Children to be encouraged to describe pictures, to observe, and to describe what observed)	Simple Stories, to be illustrated by Pictures where possible Children to be trained to re-produce scenes in their own words, special attention being given to sentence construction.	Simple Stories, to be illustrated by Pictures where possible Children to be trained to re-produce scenes in their own words, special attention being given to sentence construction.
OBJECT LESSONS.	About 20 Object Lessons— See Note.	About 20 Object Lessons— See Note.	About 20 Object Lessons— See Note.
EXERCISES.	Short interesting Recitations	See 4 years.	See 4 years.
SINGING . . .	Simple Action Songs	Simple Songs, with and without Actions. First Text of Code	Simple Songs, with and without Actions. Note Text of Code
NEEDLEWORK . . .	—	See Code and Instructions to Teachers.	See Code and Instructions to Teachers.

(2)

BARROW-IN-FURNESS SCHOOL BOARD.

COURSE OF FORM STUDY.

FIRST YEAR.—THE SQUARE, CUBE AND CYLINDER (Froebel's Gift II.)

Solids to be considered— (a) As wholes. (c) As to faces. (e) As to corners.
(b) As to surfaces. (d) As to edges. (f) In review.

Division.	Sub-division.	SUGGESTED ILLUSTRATIONS OF LESSONS.				
		(a) SOLID AS A WHOLE.		(c) SURFACE OF SOLID, AND REPRESENTATIONS OF SAME.		
		Modelling.	Building and Arrangement.	Tablet and stick laying.	Paper folding, tearing and cutting, and pasting.	Drawing.
(a) The solids as wholes.	(1) Sphere.	Sphere.	The 1 solids.	—	—	—
	(2) Cylinder.	Cylinder.	—	—	—	—
	(3) Cube.	Cube.	—	—	—	—
(b) The solids as to surfaces.	(4) Round surface.	Sphere, and objects like sphere.	—	—	—	—
	(5) Round and plane surfaces.	(1) Do. (2) Cube, and objects like cube.	—	—	—	—
	(6) Round, plane & curved surfaces.	As above, with cylinder and objects like cylinder.	—	—	—	—
(d) The solids as to faces.	(7) Faces, by touch and sight.	Embodying in clay to show faces of sphere, cube, and cylinder, for comparison.	—	—	—	—
	(8) Shapes of faces.	As above.	—	Circles, squares and oblongs, and arrangement of same.	—	Figures made with tablets and sticks.
	(9) Faces of the cube.	As above.	—	As above.	Folding squares and oblongs.	As above.
(e) The solids as to edges.	(10) Round edge.	Sphere and objects like sphere.	—	As above.	As above.	As above.
	(11) Straight edge.	Cube and objects like cube.	The solids.	As above.	As above.	As above.
	(12) Curved edge.	Cylinder, and objects like cylinder.	—	As above.	As above.	As above, and detail drawing a curved edge (circle).
(e) The solids as to corners.	(13) Edges of cube (from cube).	Modelling, table corners, using cube.	Builders, &c., with squares and sticks.	Spheres and corners made by folding.	Folding oblongs, squares, triangles (oblong to be measured), cutting or tearing at squares, &c., for measuring.	Describing at square held with sticks, &c.
	(14) No corners (from sphere and cylinder, compared with cube).	Objects like sphere and cylinder, at comparison.	As above.	Squares and circles.	Folding strip of paper over corners.	As above, and objects modelled.
	(15) Face corners.	Objections like cube for face corners.	As above.	Tablets and sticks laid to show corners.	Folding and cutting oblongs.	As above.
(f) The solids in review.	(16) Review of solids by touch.	Objects like sphere, cube and cylinder.	Figures with solids.	—	—	—
	(17) Review by touch and sight.	—	As above.	Laying of tablets and sticks, giving outline of square of figures built.	—	—
	(18) Review (from memory) by drawing.	—	—	—	—	Sphere (circle). Cylinder (oblong). Cylinder (circle). Group of these drawn and arranged to become so.

COURSE OF FORM STUDY.

SECOND YEAR.—THE SPHERE, CUBE, CYLINDER, HEMISPHERE, SQUARE PRISM AND TRIANGULAR PRISM.

DIVISIONS :—(a.) Hemisphere, square prism and triangular prism as wholes, and as to surfaces.

(b.) Do. as to faces.

(c.) Do. as to edges.

(d.) Do. as to corners and angles.

(e.) Faces, edges, lines.

(f.) Review of all six solids.

Division.	Sub-division	SUGGESTED ILLUSTRATIONS OF LESSONS.			
		(a.) SOLID AS A WHOLE	(b.) SURFACE OF SOLID, AND REPRESENTATIONS OF SAME.		
		Modelling in clay and paper	Layering and building with tablets, rods, and sticks.	Folding, cutting, and measuring.	Drawing.
(1.) Hemisphere, square prism, and triangular prism as wholes, and as to surfaces.	(1.) Hemisphere, compared with sphere.	Clay—Sphere—cut by string or wire into half.	Circles, squares, segments, and boards made up of these figures.	Folding and cutting coloured paper (or card) to be formed by cutting all angles of folded square, and arranging and mounting same.	Views of hemisphere, horizon, &c. laid with tablets, and colouring of same.
	(2.) Square prism, compared with cube and cylinder.	Clay—Cube—bent to form 4 square prisms.	Circles, semi-circles, squares, oblongs—boards made up of these figures.	Do.	Views of cylinder and square prism, horizon laid, &c. and colouring of same.
	(3.) Triangular prism, compared with square prism.	Clay—Square prism and bent to form triangular prism.	Squares, triangles, oblongs—boards, &c. with squares, triangles, and sticks.	Do.	Views of square and triangular prism, horizon, &c. laid and colouring same.
(2.) As to faces.	(4.) Hemisphere as to faces.	Clay—Hemisphere—section of sphere, and also model made with paper.	Semi-circles and all geometrical figures formed of these.	Folding and cutting coloured paper and mounting same, figures based on lesson.	Sphere, marking horizon, views of hemisphere, figures laid and colouring same.
	(5.) Square prism as to faces.	Clay—Square prism—do—by range of corners (a), (b)—by making cylinder and striking on sides (c) (see exercise produced for each exercise).	Build objects with cube and square prism; lay views of cube and prism—also views of objects built.	Do.	Views of cube and prism, figures laid.
	(6.) Triangular prism as to faces.	Clay—Triangular prism—bent from (b), (c)—model cylinder and sticks for 3 sides.	Lay faces of prism, build with square prism and triangular prism and lay views.	Do.	Views of faces of prism and objects built.
(3.) As to edges.	(7.) Hemisphere as to edges (compared with cube, &c.).	Clay—Apple, &c., and half apple.	Build with hemisphere and cube, lay with tablets of square and semi-circle, (quarter), &c.	Do.	Views of apple and half apple, hemisphere and cube, figures laid, &c.
	(8.) Square prism as to edges (compared with cube, &c.).	Clay—Objects like square prism.	Lay views of square prism and cube, separately and in combination; also in combination with semicircle.	Do.	Drawing of views of figures laid, also drawing to measurements with ruler.
	(9.) Triangular prism as to edges (compared with square prism, &c.).	Clay—Triangular prism—mark off sides, about each long edge.	Lay views of sides of prism on sticks and tablets, arrange in figures.	Do.	Drawing of views of sides of prism, and also figures laid and mounted.
(4.) As to angles.	(10.) Square corner—right angle (compared with cube, square prism, triangular prism).	By Paper—Right square prism.	Lay tablets of faces of cube, open from corners of tablets in sticks, giving angles, cube and square or right angle, arrange figures with square tablets and sticks.	Do.	Draw figures laid and mounted.

SECOND YEAR—continued.

Exercises.	Sub-division	SUGGESTED ILLUSTRATIONS OF LESSONS.			
		(a) SOLID AS A WHOLE	(b) SURFACE OF SOLID, AND REPRESENTATIONS OF SAME		
		Modeling in clay and paper	Laying out and building with tablets, strips, and sticks	Folding, cutting, and measuring	Drawing.
(a) As to color	(11) Sharp corner—cube and (compared with triangular prism, &c.).	As Paper— Hollow triangular prism	Lay tablets of linen or cloth, then sticks for corners, give square with angle, by right angled triangle with sticks, make cube, arrange figures	Folding and cutting colored paper and measuring strips. Figures based on lesson.	Draw figures laid and measured.
	(12) Blunt corner—obtain angle by placing square prism and triangular prism side by side.	As Clay or Paper— Square and triangular prisms—place side by side	Lay tablets of and views of solids placed together, lay borders and figures	Do.	Do.
(a) Faces, edges, and base	(13) Parallel faces, edges, face, using cube, cylinder, and square and triangular prisms.	Clay— Square tablet with circular tablets. Also hat.	Discuss definitions of square, circle, and similar faces, tablets and rods, arrange tablets, &c., in figures, parallel to each other	Do	Do
	(14) Triangular faces, edges, face, using cube, cylinder, and prisms	Clay— Obtain tablets and sheets with slanted faces.	Discuss definitions of "oblique" and lay squares, oblique, circles with tablets, rods and sticks, arrange figures with these	Fold and measure figures based on lesson	Draw figures laid and measured, and color
	(15) Faces, edges, &c., oblique to each other, using square and triangular prisms	Clay— Square tablet—on this a triangular prism Oblique to illustrate term "oblique"	Discuss definitions of "oblique," lay squares, oblique, circles, triangles with tablets, rods, and sticks, arrange figures with these	Do	Do
(a) Review of all solids	(16) Six solids recognized by touch	(1.) Modeling in clay, by different children, of— (a.) Square (b.) Objects based on spheres. (2.) Cube (3.) Objects based on cube, &c. (4.) Modeling in paper— Make square prism, cylinder, and triangular prism.	Lay faces of solids, after feeling them, with tablets, strips, and rods, afterwards build and measure in pictures	—	—
	(17) Six solids recognized by sight	—	(1.) Lay all views of solids, the teacher holding up solid, the child being provided with tablets, strips, and sticks. (2.) Lay all solids. (3.) Arrange borders, groups, &c., from memory or at pleasure	Fold and measure colored papers, as before	—
	(18) Six solids reviewed by drawing.	—	—	—	Drawing should be exactly as exercise of memory, and should consist of— (1.) Views of solids (2.) A subject modeled (3.) Arrangement based on borders or groups arranged in tablet, strip and stick-laying exercises

BARROW-IN-FURNESS SCHOOL BOARD.

APPENDIX A.
222.

COURSE OF FORM STUDY.

THIRD YEAR.

FOURTH YEAR.

Revision in greater detail of six solids of the first and second years:—

- (a) (1) By touch (modelling in clay and paper); (2) By sight (illustrated by tablet, ring and stick laying, and by folding, cutting and mounting paper); (3) By drawing.
- (b) (1) (a.) Description by children of mental images of sphere and cube, and drawing of views of these solids; (b.) Modelling of additional objects like sphere and cube in clay; (c.) Modelling cube in carton; (d.) Folding, cutting and mounting of circles and squares of coloured paper; (e.) Drawing and colouring of figures based on lesson.
- (2) (a.) Description by children of mental images of hemisphere and square prism, and drawing views of these solids; (b.) Modelling in clay of additional objects like hemisphere and square prism; (c.) Modelling square prism in carton; (d.) Folding, cutting and mounting of circles, squares, and oblongs of coloured paper; (e.) Drawing and colouring of figures based on lesson.
- (3) (a.) Description by children of mental images of cylinder, and drawing views of this solid; (b.) Modelling in clay of additional objects like cylinder; (c.) Modelling of cylinder in carton; (d.) Folding, cutting and mounting of figures developed up to this stage, as repeats for borders, grounds, &c.; (e.) Drawing and colouring of figures based on lesson.
- (4) (a.) Description by children of mental images of triangular prism, and drawing views of this solid; (b.) Modelling in clay of additional objects like prism; (c.) Modelling of prism in carton; (d.) Folding, cutting and mounting of figures developed up to this stage, as repeats for borders, grounds, &c.; (e.) Drawing and colouring of figures based on lesson.
- (c.) DIVISION INTO EQUAL PARTS.—
- (1) Bisecting.—Ruler to be used.—(a.) Modelling in clay tablets like square, oblong, &c., bisecting by drawing on them with rulers, and on these tablets huddling other tablets; (b.) Drawing on carton and modelling; (c.) Folding, cutting and mounting coloured paper; (d.) Drawing and colouring.
- (2) Trisecting.—Ruler to be used.—(a.) By modelling in clay (e.g. lot of 12, second year, model circular tablet, trisect diameter, make crown $\frac{1}{2}$ of diameter); (b.) By drawing on carton and modelling; (c.) By folding, cutting and mounting coloured paper; (d.) By drawing and colouring.
- (3) Quadrisection.—Ruler to be used.—(a.) By modelling (e.g. model square tablet, quadrisection sides, draw vertices and horizontals, and model upon tablet a raised square tablet, &c., &c.); (b.) By drawing on carton and modelling; (c.) By folding, cutting and mounting coloured paper; (d.) By drawing and colouring.
- (4) Revision of course.

(a.) THE ELLIPSOID, OVOID, AND EQUILATERAL TRIANGULAR PRISM.—

- (1) As wholes; (2) As to faces; (3) Figures derived from them, viz.: Ellipse, Oval, and Triangles, special attention being drawn to the coincidence of these forms in nature.
- The forms, &c., of these solids should be impressed on the children by comparison with other solids previously considered (First, Second, and Third Years), and the lessons should be illustrated by (a.) Model, ring in clay and carton; (b.) Folding, cutting, and mounting of coloured paper; (c.) Drawing and colouring.
- The detailed syllabus of the First and Second Year will sufficiently suggest methods to be employed in teaching.
- (b.) DIVISION INTO EQUAL PARTS.—RULER TO BE USED:—
- (a.) Bisection, Trisection, and Quadrisection; (b.) Follow this by division into any number of equal parts, employing as in the Third Year's Course—(1) Modelling in clay and carton; (2) Folding, cutting, and mounting of coloured paper; (3) Drawing and colouring.
- (c.) PROPORTION AND SYMMETRY.—
- Illustrated by (1) Modelling in clay and carton; (2) Folding, cutting, and mounting of coloured paper; (3) Drawing and colouring.
- (d.) REVIEW OF SOLIDS PREVIOUSLY CONSIDERED, to discover if children have well defined mental images of the type forms, requiring, as in Third Year—(1) Description by children of mental image of each solid and drawing of views of each solid; (2) Modelling of objects like solids in clay and carton; (3) Folding, cutting, and mounting of figures derived from solids; (4) Drawing and colouring of these figures, and arrangements of figures.
- (e.) (1) THE CONE (compared with cylinder), and PYRAMID (compared with cone), as wholes; (2) Cone and Pyramid compared as to faces and different views with cube, square prism and triangular prism; (3) Modifications of Cone and Pyramid (truncated, &c.), illustrated as before, by modelling in clay and carton; Paper folding, cutting, and mounting; Drawing and colouring.
- (f.) REVIEW OF ALL FORMS OF SOLIDS CONSIDERED.
- FIFTH YEAR (Standard III.)
- (a.) EXTENSIVE MEASURING, DIVISION INTO EQUAL PARTS, AND USE OF COMPASSES:—
- Lessons to be illustrated by (1) Drawing and colouring; (2) Paper cutting and mounting; (3) Modelling in cardboard.
- (b.) THE CIRCLE, ELLIPSE, AND OVAL, IN GREATER DETAIL.
- These forms should be impressed on the children by more detailed comparison with forms occurring in nature, as (1) Leaves (simple and compound); (2) Fruits (Lemon, Plum, Apple, Pear, Walnut, Acorn, Strawberry, &c.); (3) Bodies of Animals (Beetle, Mouse, Bird, &c.); (4) Familiar objects. Conventional figures based on these forms, or their modifications should also be deduced. These lessons should be illustrated by (a.) Modelling in clay; (b.) Drawing with the pencil and brush.
- The children should be encouraged to collect natural objects illustrating the lessons, and which will serve as examples for modelling and drawing. Conventional figures deduced may be used as

reports for borders, and for filling squares, oblongs, circles, &c., colour being used wherever possible, and the children being encouraged to undertake original arrangements. Girls might occasionally embroider original designs. These exercises may also be arranged as to combine the use of ruler, set square and compass, with free-hand drawing.

(a) SYMMETRY AND PROPORTION :

Lessons should be based on observations by the children of natural growth of plants, &c., which illustrate arrangement about an axis of symmetry, also, on observation exercises developing powers of judgment of proportion by eye alone, as well as by actual measurement. Illustrations for the lessons should be (1) Modelling in clay; (2) Drawing and colouring; (3) Paper cutting and mounting; but these lessons should be introduced wherever possible when dealing with the two previous divisions of the year's work.

SIXTH YEAR—Standard IV

(a) EXERCISES IN MEASURING, DIVISION INTO EQUAL PARTS, USE OF COMPASSES, AND PREPARATION OF DRAWING TO SCALE

The Exercises in Measuring, Division into Equal Parts, and the Use of Compasses, should still be illustrated by (1) Drawing and Colouring; (2) Paper Cutting and Mounting; (3) Modelling in Cardboard. Drawings to Scale should be

based on exercises in measuring actual objects which occur in the school-room, squared paper being first used, afterwards paper without squares. Later exercises should consist of the translation of rough figured sketches into exact working drawings, and the preparation of scales. The terms "Plan" and "Elevation" might be illustrated in these drawings and measuring exercises.

(b) CONTINUATION OF EXERCISES IN OBSERVATION AND EXPERIENCE BY (1) MODELLING IN CLAY; (2) DRAWING WITH PENCIL AND BRUSH.

As recommended in the Syllabus for the Fifth Year, forms occurring in nature should serve as the basis of the lessons. From leaves, &c., the pupils might now proceed to the consideration of larger growths, and an interesting series of exercises, leading to design, might be based on the change of the circle into the spiral, from which tangential offshoots may be thrown, and an ornamental form eliminated.

Conventional figures, based on the study of leaves, flowers, plants, &c., should also be considered, and the pupils encouraged to use them as the basis of ornamental design, the application of which should be encouraged.

(a) SYMMETRY AND PROPORTION should still receive attention, the exercises recommended for the Fifth Year being continued.

(3)

NOTES ON THE WORK OF INFANTS' SCHOOLS.

1. WORD-BUILDING AND READING.—The word-building exercises should be so arranged as to prepare the pupils for the subsequent Reading lessons. It should also be borne in mind that no word-building exercise is complete or satisfactory where the pupils are unable to reproduce the words taken during the lesson.

In all Reading lessons, the pupils should be encouraged to question the teacher as to the matter of the lesson, such questions often being the only method of indicating to the teacher the difficulties presenting themselves to the minds of the young readers, and the clearing up of these difficulties by means of intelligent conversation between the teacher and the class, should form an integral part of each lesson.

2. FORM AND COLOUR.—The course of Form Study set forth in the detailed syllabus approved by the Board will broadly indicate methods for using the gifts of Froebel mentioned in the Scheme of Work. The lessons are so arranged as to keep in view the three stages which are absolutely necessary in acquiring a knowledge of Form, viz.—Perception, Thought, Expression. Observation of Form requires both Perception and Thought, Expression of Form must be preceded by Observation, and there are three ways by which ideas of form may be expressed: by Making, by Drawing, by Language. How ideas of form may be expressed by Making and Drawing are plainly suggested in the syllabus, expression by Language cannot be so clearly indicated, but the intelligent teacher will so frame the lessons as to make

them almost entirely conversational. Answering in complete sentences should be encouraged, and the construction of the sentences used in answering should receive attention.

Some provision is made in the syllabus for the cultivation of the Colour sense, mainly as a means of developing ideas of form, for "colour adds greatly to the attractiveness of form and is therefore a great aid in leading to an appreciation of form, especially among children."—The selection of colours to be used in these lessons should not, however, be made at random; they should have an orderly sequence, and should have a two-fold purpose, viz.: The giving of the ability to receive colour-impressions, and the ability to express them. Exercises in matching colours should always precede colour naming, and only those names which are in common use should be given to young children. Whilst receiving colour-impressions and learning colour names, the children can also begin to produce colour effects, by arrangement of tablets, &c., and by drawing in colour, as suggested by the syllabus. This calls for a knowledge of harmony of colour, but at this early stage the teaching should be rather negative than positive; statements as to harmony of the different Primaries, Secondaries and Tertiaries being avoided. The teacher should so arrange the colours to be used that the children will receive an unconscious training in the harmony of colour, discords of colour will then be offensive to them. For older pupils, the following classification may be useful:—

I.	(1)	Primary Colours are—	(a) Yellow	(b) Red	(c) Blue
	(2)	Secondary " " —	(d) Purple = (b + c)	(e) Green = (a + c)	(f) Orange = (a + b)
	(3)	Tertiary " " —	(g) Citrine = (c + f)	(h) Russet = (d + f)	(i) Olive = (d + e)

II. Each primary harmonium with its *Consonantary*, which is that *Secondary* which contains the other two primaries—e.g.—Yellow harmonium with Purple, which contains Red and Blue.

III. The *Secondaries* and *Tertiaries* harmonium after the same law—e.g.—Purple harmonium with Orange (containing the other two *Secondaries*).

Harmony between *Secondaries* and *Tertiaries* is more subtle and delicate than between *Primaries* and *Secondaries*; tests of the primaries in combination are more pleasing than the colours in their full strength.

3. **DRILL GAMES, &c.**—It is intended that some part of each school meeting should be set apart for Drill, &c., and the Time Table should accordingly provide for this. From ten to fifteen minutes only should be spent at one time in Physical Exercises when the pupils first receive this instruction, so as to avoid undue strain.

4. **STORY AND PICTURE LESSONS.**—These lessons can often, with advantage, be connected with the Reading and Object Lessons, serving as introductions or supplements to such lessons. They may also serve admirably as Moral Lessons.

5. **OBJECT LESSONS.**—In drafting the Scheme of Object Lessons, which should be submitted for approval, it should be borne in mind that the chief aim of these lessons should be "to call into activity, observation and the construction of clear mental pictures, so that the intelligence of the pupils may be exercised and developed," and also that such lessons are not to be treated "merely as opportunities for imparting miscellaneous information." The pupils should be led to reason simply from facts clearly understood, and the lessons should be so arranged that they are mutually connected, whilst the following general considerations should also be kept in view—

- (1.) The supply of objects and pictures.
- (2.) The season of the year when the lesson is to be given—e.g.—Plants, birds and natural phenomena typical of the season should be chosen for lessons.
- (3.) Local conditions (such as the parents of the people in the neighbourhood).

A carefully graduated course for the three years of a child's probable stay in the Infant School need only be changed when casual observation and trial has proved that such a change is desirable. To be fully successful in object teaching, the teacher must herself clearly understand the facts and the purpose of the lessons to be given, and must know exactly where the child is likely to draw false conclusions, &c. This is only possible after some actual experience in giving the lessons of the course taken up in the school, hence the danger of continual change.

6. **RECITATIONS.**—The term "interesting," as applied to recitations, does not necessarily exclude "harmless." Harmless recitations are often most interesting to children, and careful selection will avoid any danger of weariness.

NOTES ON THE WORK OF STANDARDS I. and II.—See CHAPTER to H.M. INSPECTOR, No. 352.

The syllabus of instruction in Reading, Writing, Arithmetic, Class Subjects, Recitation, Music, &c., shall be that prescribed by the Code of the Education Department, but the following suggestions are made for securing greater

intelligence in teaching. The course of Form Studies prescribed below as the basis of the teaching of Drawing, and as a continuation of the kindergarten occupations for developing deftness of hand and co-ordination of the eye, is expected to be taken up in all Schools.

1. **ARITHMETIC.**—The teaching of this subject should be based on the natural method of reasoning proceeding from the concrete to the abstract. As aids to the teaching of notation, Tillych's *Block Box*, with Schlegel's *Manual*, and Gift 8 of Froebel, are recommended. Visual illustrations should be used wherever practicable, and the Number Lessons should always require written application to varied practical calculations.

2. **WRITING.**—Writing should be taught from the very first on systematic lines. The letters and difficult combinations of letters should be carefully classified, and the teaching should be from the Blackboard, the scholars using properly ruled Exercise Books. The occasional connection of Writing with Drawing will add interest to the lessons. A healthy position should be insisted on during all lessons, as also a proper method of holding the pen.

3. **THE READING LESSON**, which could be based on a previous Conversation lesson, and on the Blackboard exercises in Word-building, should not include the teaching of Spelling. The children should be encouraged to ask questions, and due provision should be made for intelligent conversation between the teacher and the class on the matter of the lesson. The Reading lesson may often be connected with all the other lessons of the day, and a connection of thought made to run through the whole day's routine.

4. **SPELLING.**—Intelligent lessons on Word-building, the classes of words being well and methodically graded, will be found to be the best method of teaching Spelling, for all Word-building exercises are incomplete and unsatisfactory where the pupil is unable to reproduce the words taken during the lesson. The mechanical difficulties of Reading are also largely removed by these exercises.

5. **GEOGRAPHY.**—Geography should be an Object Lesson always. The sand-tray and clay-modelling (Gift 20) will be found to be useful means of impressing on the pupils the forms of the physical features of the earth. As aids to the understanding of plants, &c., the Kindergarten building blocks (Gifts 3, 4, 5, and 6), Stick-laying (Gift 8), Drawing on squared slates and paper (Gift 10) and Embroidery in outline (Gifts 11 and 12) will be extremely useful. The use of these Kindergarten gifts will develop the intelligence of the pupil, whilst supplying an excellent training of the Hand and Eye.

6. **OBJECT LESSONS.**—In drafting the scheme of Object Lessons, which should be submitted for approval, it should be borne in mind that the chief aim of these lessons should be "to call into activity, observation and the construction of clear mental pictures, so that the intelligence of the pupils may be exercised and developed," and also that such lessons are not to be treated "merely as opportunities for imparting miscellaneous information." The pupils may be led to reason simply from facts clearly understood, and the lessons should be so

arranged that they are mutually connected, whilst the following general considerations should also be kept in view:

- (1.) The supply of objects and pictures
- (2.) The season of the year when the lesson is to be given—e.g.—Plants, birds, and natural phenomena, typical of the season, should be chosen for lessons
- (3.) Local conditions (such as the pursuits of the people in the neighbourhood).

7. **FORM BRUSHES**—These should not only serve as a basis for the teaching of drawing, but should also train children to habits of exact observation, accuracy and neatness. They will also arouse and sustain interest, and whilst developing the facilities of the Hand and Eye will ease the strain on the young mind of purely mental activity. The following will be found to be a natural continuation of the Kindergarten occupations of the Infant School:—

- (a) Modelling in clay.
- (b) Chequered drawing on paper, with use of coloured chalks.—Elements of Design.
- (c) Folding, cutting, and mounting of paper.
- (d) Modelling in carton.

The scheme of lessons approved by the Board should serve as the basis of the Exercises under this head, but it is hoped that the teachers will carefully observe and take note of any apparent failure in the scheme to follow and provide for the natural development of the faculties of the children, so that all defects may be gradually eliminated. Any suggestion will be heartily welcomed, after careful trial has proved such suggestions to be valuable. By referring to the notes on the teaching of Form, &c., appended to the Scheme of Work for Infants' Schools, additional information may be obtained.

8. **PHYSICAL EXERCISES**—Physical Exercises and Organized Games, with and without apparatus, and with and without music, should be regularly and systematically undertaken during part of each school meeting, and the Time Table should provide for this. These Exercises can often be taken in the play ground, when taken in the school room it is advisable that some, if not all, of the windows should be open.

A. HAWKIDGE,
Superintendent of Schools.

(4.)

BARROW-IN-FURNESS SCHOOL BOARD

COOKERY SCHOOL.

COURSE OF LESSONS. FIRST YEAR.

Lesson.	Subject Matter of Lessons or Articles to be Cooked
I.	Management of an ordinary stove, lighting of fire, economy of fuel, and cleaning of flues.
II.	Cleaning of stove, sink, saucepans, tins, knives, forks, basins, copper, silver, milk jug, dinner plates, tea things, glass, and pastry board.
III.	Roast meat, Yorkshire pudding, boiled potatoes, leek and currant pudding, ground rice mould.
IV.	Boiled fish and parsley sauce. Braised stew, steamed fruit pudding, corn flour mould.
V.	Haricot soup, savoury hash, boiled greens, Stewart pudding, custard tarts.
VI.	Fried fish, boiled meat and broth, dripping pastry, potato cheese cakes, gruel (two ways), lemonade.
VII.	White and brown bread, tea cakes, beef tea, chop for an invalid, mutton broth.
VIII.	Poa soup (bone stock), baked savoury mince (cold meat cookery), tracle pudding and sweet sauce, rice pudding, fruit tart, flaky pastry.
IX.	Dietary value of the various articles already cooked.
X.	Recognition.

NOTES—(1.) The pupils attending the cookery classes should always be provided with note books for recipes.
(2.) The first year's notes are intended for the girls of Standard IV.
(3.) All the articles cooked may be purchased by the pupils at the close of the lesson.
(4.) Agents are provided for the pupils attending the classes and are kept in the cookery school.

COURSE OF LESSONS. SECOND YEAR.

Lesson.	Subject Matter of Lessons or Articles to be Cooked
I.	Management of an ordinary stove, lighting a fire, economy of fuel, and cleaning of flues.
II.	Cleaning of stove, sink, saucepans, tins, knives, forks, basins, copper, silver, milk jug, dinner plates, tea things, glass, and pastry board.
III.	Roast meat, boiled potatoes, boiled greens, savoury pudding, hammy mould.
IV.	Fish cooked in milk, fish stew, cheap cabinet pudding, rice pudding, Avon cakes or rock tarts.
V.	Leek soup, savoury mince, Swiss pudding, macaroni and cheese.
VI.	Fried fish, beef steak pudding or pie, meat pastry, bird's nest pudding, tea cakes, gruel.
VII.	Vegetable soup (bone stock), boiled rabbit with onion sauce, invalid pudding, brown bread.
VIII.	Baked stuffed fish, Lancaster stew, savoury balls, vegetable plum pudding, orange and lemon mould.
IX.	Meat pie, flaky pastry, mutton broth, custard pudding, beef tea, white bread, porridge.
X.	Dietary value of the various articles of food already cooked.

NOTES—(1.) The pupils attending the cookery classes should always be provided with note books for recipes.
(2.) The second year's notes are intended for the girls of Standard V.
(3.) All the articles cooked may be purchased by the pupils at the end of each lesson.
(4.) Agents are provided for the pupils attending the classes and are kept in the cookery school.

COURSE OF LESSONS. THIRD YEAR.

APPENDIX A.
XXX.

LESSON	Subject Matter of Lessons or Articles to be Cooked.
I.	Management of an ordinary stove, lighting a fire, economy of fuel, and cleaning of flues.
II.	Cleaning stove, sink, saucepans, tins, knives, forks, brass, copper, silver, milk jug, dinner plates, tea things, glass, and pastry boards.
III.	Baked stuffed fish, roast meat, Yorkshire pudding, boiled potatoes and greens, steamed fruit pudding.
IV.	Vegetable soup, savoury mince (cold meat cookery), London buns, custard pudding, scones, breaded tea.
V.	Fish cooked in milk, stewed steak, fig pudding, plain cake pudding, beef tea.
VI.	Poa or haricot soup, sausage rolls, flaky pastry, baked ruly poly pudding, stewed apples, ground rice mould.
VII.	Fried fillets of plaice, hash or hot pot, white bread, wheat meal scones, bread and currant pudding, or hunter's pudding.
VIII.	Boiled meat and beets, boiled haricot beans, savoury potatoes, tarts, short pastry, gruel.
IX.	Boiled fish, parsley sauce, vegetable stew, ginger bread cake (Parkin), currant dumplings, barley water.
X.	Dietary value of the various articles of food already cooked.

NOTE—(a) The pupils attending the cookery classes should always be provided with note books for recipes.
 (b) The third year's course is selected for girls of the Sixth and Seventh Standards.
 (c) Any of the articles cooked may be purchased by pupils at the close of each lesson.
 (d) Apparels are provided for the pupils attending the classes and are kept in the cookery school.

(5)

SYLLABUS OF A COURSE OF LESSONS ON LAUNDRY WORK.

LESSON.	
I.	<i>Theoretical Exercise Work</i> —Reasons for washing. Choice of day. Preparation. Practice. Completion. Order of work. Materials required and reasons for use. Water. Detergents.
II. Animal Fibres.	<i>Fibres and Woollens</i> —Information on material. Process copied from blackboard. Explanation and demonstration. Actual practice. Each child to wash woollen garment.
III.	<i>Fine things</i> —Washing of white clothes generally. Information on material. Process copied from blackboard. Explanation and demonstration. Actual practice. Rules for drying. Commence cleansing operations, scrubbing, &c. Each child to bring cuffs or collars and fancy white pinfold.
IV. Coloured Vegetable Fibres.	<i>Prints</i> —Information on material. Summarise difference in the washing lessons. Process copied from blackboard. Explanation and demonstration. Actual Practice. Description of cleansing operation. Baths, stools, &c. Each child to wash print pinfold.
V.	<i>First Lesson in Ironing</i> —Copy from blackboard rules for folding. Draw attention to rules and cleanliness of room. Folding and wringing of garments washed in second and third lessons. Copy "Management of Fire" and cleaning of iron. Explanation and arrangement of ironing table. Copy "Ironing of Handkerchiefs." Demonstration and practice.
VI.	<i>Ironing Print Pinfolds</i> —Copy "Rules for Ironing." Damp pinfolds starched at fourth lesson. Copy "Recipe and Method of making Boiled Starch" from blackboard. Demonstration. Starching and ironing of a pinfold. Practice. Ask girl to iron pinfold washed at fourth lesson.
VII.	<i>Ironing Collars and Cuffs</i> —Recipe and method of starching copied from blackboard. Demonstration. Each girl to starch linen washed at third lesson. Copy "Rules for ironing Collars and Cuffs" from blackboard. Demonstration. Practice.
VIII.	<i>Lace and Muslin</i> —Demonstration on "Treatment of Lace and Muslin." Process copied from blackboard. Practice ironing white pinfold washed at third lesson.
IX.	<i>Silk</i> —Copy from blackboard "Washing of Silk and Recipe for Gum Water," also "Furkin Washing," also brown water for Art work. Demonstration. Practice. Each child to wash and iron silk handkerchief.
X.	<i>Recapitulation</i> —Proper method of folding and packing each garment in clean towel brought for that purpose.

N

(6.)

BARROW-IN-FURNESS SCHOOL BOARD.

WOODWORKING COURSE for STANDARDS V.-VII., 1896-7.

FIRST YEAR.

No.	Name of Model or Exercise.	Wood Employed.	Tools Used.
1	Window wedges,	Kauri Pine	Knife, 2 ft. rule, try square, marking gauge, plane, tenon saw, chisel, straight edge, brace and bit, scriber, bench hook, compasses, sand paper.
2	Plane up a piece of wood,	Yellow pine.	
3	Trenching,	do.	
4	Plant label,	do.	
5	Luggage label,	do.	
6	Thread winder,	Kauri pine.	
7	Round ruler,	Yellow pine.	
8	Flat ruler,	Kauri pine.	
9	Toe joint (half lap),	Yellow pine.	
10	Paper knife,	Kauri pine.	

SECOND YEAR.

1	Dish rest,	Yellow pine.	As above, and mortise gauge, gauge mallet, hammer, plane, and shooting board.
2	Dovetail halving (1),	do.	
3	Dovetail halving (2),	do.	
4	Bench hook,	do.	
5	Flower pot cross,	do.	
6	Pen tray,	Canary pine.	
7	Flower pot stand,	Yellow pine.	
8	Angle brace joint,	do.	
9	Mortise and tenon joint,	do.	
10	Ink stand,	Canary pine.	

THIRD YEAR.

1	Shouldered tenon,	Yellow pine.	As above, and bow saw, dovetail saw, inside gauge.
2	Shouldered dovetail,	do.	
3	Box dovetailing (two half pins),	do.	
4	Common box dovetailing,	do.	
5	Oblong box (butt joint),	do.	
6	Towel roller and racks,	Canary pine and yellow pine.	
7	Half mitre tenon,	Yellow pine.	
8	Mitre tenon,	do.	
9	Soap box (dovetailed),	Kauri pine.	
10	Foot stool,	Yellow pine.	

Courses in Woodwork to be taken if the ANNUAL EXAMINATION in CARPENTRY EXERCISES abandoned
FIRST YEAR (Standard V.)

No.	Name of Model	Character of Wood Employed.	Tools used
1	Window wedges,	Hard.	Knife, 2 ft. rule, try square, marking gauge, plane, tenon saw, chisel, gauge, scriber and bits, turn saw, compasses, sand paper, screwdriver, mallet.
2	Round flower stick,	Soft.	
3	Rectangular flower stick,	do.	
4	Flat ruler,	do.	
5	Plant label,	do.	
6	Peak thread winder,	Hard.	
7	Round ruler,	Soft.	
8	Paper knife,	Hard.	
9	Pen tray,	do.	
10	Dish rest,	Soft.	

SECOND YEAR (Standard VI.)

1	Bench hook,	Soft.	As above, and bench hook, spokeshave, rip saw, hammer and nails, shooting board, and bevel punch.
2	Flower pot cross,	do.	
3	Hammer shaft (English pattern),	Hard (ash).	
4	Flower pot stand,	Soft.	
5	Tooth brush rack,	Hard.	
6	Pen tray and inkstand combined,	Hard (teak).	
7	Oblong box,	Soft.	
8	Small basket,	do.	

THIRD YEAR (Standard VII.)

APPENDIX A.
S.S.S.

No.	Name of Model.	Character of Wood Employed.	Tools Used.
1	Nail box (with 2 divisions),	Soft.	As above, and mortise gauge, dovetail saw, inside gauge.
2	Towel roller and rods,	Soft and hard.	
3	Footstool,	Soft.	
4	Soup box (dovetailed),	do.	
5	Axis shaft,	Hard (ash).	
6	Try square,	Hard (beech).	
7	Scoop,	Hard (birch).	
8	Frame for mirror, with shelf and brackets,	Soft.	

ORGANIZED SCIENCE SCHOOL—WOODWORKING COURSE.

I. STAGE.

No.	Name of Model.	Size.	Wood Employed.	Tools Used.
1	Centre half lap,	5½" x 1½" x 1"	Yellow pine	Plane, saw, chisel, try square, marking gauge, 5 ft. rule, straight edge, brace and bits, gauge, mallet, spokeshave, hammer, punch, shooting board, etc., etc.
2	Dovetail halving (a),	do.	do.	
3	Dovetail halving (b),	do.	do.	
4	Bench hook,	11" x 5" x 1"	do.	
5	Bird's joint,	5½" x 1½" x 1½"	do.	
6	Mortise and tenon joint,	do.	do.	
7	Mortise and tenon joint,	4" x 1½" x 8"	do.	
8	Flower pot cross,	5½" x 1½" x 1½"	do.	
9	Angle bird's joint,	7½" x 3½" x 3½"	do.	
10	Tooth brush rack,	8" x 1½" x 7"	do.	
11	Combination joint,	11" x 4½" x 1½"	do.	
12	Flower pot stand,	10" x 2½" x 1"	Canary pine.	
	Pen tray,			

II. STAGE.

No.	Name of Model.	Size.	Wood Employed.	Tools Used.
1	Haunched tenon,	5½" x 1½" x 1½"	Yellow Pine.	As in First Stage.
2	Shouldered dovetail,	6" x 3" x 2½"	do.	
3	Half mitre tenon,	5½" x 1½" x 1½"	do.	
4	Box dovetailing (2 half-joints),	4" x 1½" x 1½"	do.	
5	Oblong box (butt joint),	8½" x 4½" x 3½"	do.	
6	Common box dovetailing,	4½" x 3" x 3½"	do.	
7	Towel roller and rods,	17½" x 1½" x 1½" 5" x 2½" x 1½"	Yellow and Canary pine.	
8	Mitre tenon,	5½" x 1½" x 1½"	Yellow pine.	
9	Dovetail housing,	14" x 3" x 1½"	do.	
10	Combination joint,	8" x 1½" x 1½"	do.	
11	Soup box (dovetailed),	4½" x 1½" x 4"	Kauri pine.	
12	Foot stool,	10½" x 8" x 3½"	Yellow pine.	

III. STAGE.

No.	Name of Model.	Size.	Wood Employed.	Tools Used.
1	Double mortise and tenon (breadth),	6" x 5" x 18"	Yellow pine.	As in First and Second Stages.
2	Stand for U tube,	12½" x 5" x 1½"	do.	
3	Double mortise and tenon (length),	6" x 7" x 2"	do.	
4	Oblique dovetail,	5" x 2" x 2"	do.	
5	Clothes rack,	16" x 3" x 3"	do.	
6	Lap or drawer dovetail,	5" x 5" x 1½"	do.	
7	Try square,	25c x 15c x 5c	Beech.	
8	Combination joint,	8" x 1½" x 1½"	Yellow pine.	
9	Axis shaft,	48c x 6c x 25c	Ash.	
10	Double mortise and tenon (L. and R.),	8" x 7" x 1½"	Yellow pine.	
11	Knife box (dovetailed),	12" x 2½" x 7"	do.	
12	Scoop,	20" x 2½" x 1½"	Birch or sycamore.	

BARROW-IN-FURNESS SCHOOL BOARD.

RETURN showing COST of PRACTICAL INSTRUCTION.
COOKERY SCHOOL.

ORIGINAL COST OF FITTINGS, &c., . . . £55.

YEAR 1892.

REVENUE			EXPENDITURE		
	£	s. d.		£	s. d.
Sale of food,	21	10 0	Salaries,	97	17 0
Grant,	129	0 0	Meat, groceries, &c.,	41	2 3
From rates,	89	6 8	Fuel, repairs, &c.,	33	16 7
(643 pupils earned grant.)			Replacement, &c.,	53	11 3
			Books, &c.,	10	11 0
			Rent, &c.,	9	18 1
	239	16 8		239	16 8

YEAR 1893.

REVENUE			EXPENDITURE		
	£	s. d.		£	s. d.
Sale of food,	20	8 5	Salaries,	99	7 8
Grant,	144	8 10	Meat, groceries, &c.,	39	18 7
Miscellaneous receipts,	3	0 0	Fuel, repairs, &c.,	36	7 5
From rates,	12	8 8	Replacement, &c.,	0	1 0
(723 pupils earned grant.)			Books, &c.,	3	4 8
			Rent, &c.,	1	8 9
	180	5 11		180	5 11

YEAR 1894.

REVENUE			EXPENDITURE		
	£	s. d.		£	s. d.
Sale of food,	39	10 0	Salaries,	151	0 0
Grant,	149	8 0	Meat, groceries, &c.,	28	18 5
Miscellaneous receipts,	1	10 0	Fuel, repairs, &c.,	46	10 0
From rates,	48	0 4	Replacement, &c.,	0	11 0
(747 pupils earned grant.)			Rent, &c.,	1	9 8
	237	9 1		228	9 1

YEAR 1895.

REVENUE			EXPENDITURE		
	£	s. d.		£	s. d.
Sale of Food,	38	17 2	Salaries,	160	0 0
Grant,	170	16 0	Meat, groceries, &c.,	45	15 11
Miscellaneous receipts,	0	15 0	Fuel, repairs, &c.,	34	7 3
From rates,	31	19 7	Replacement, &c.,	1	13 0
(854 pupils earned grant.)			Rent, &c.,	1	11 7
	239	7 9		242	7 9

YEAR 1896.

REVENUE			EXPENDITURE		
	£	s. d.		£	s. d.
Sale of food,	42	4 8	Salaries,	167	10 0
Grant,	194	0 0	Meat, groceries, &c.,	47	19 0
Miscellaneous receipts,	5	10 0	Fuel, repairs, &c.,	47	19 4
From rates,	26	19 8	Replacement, &c.,	1	8 0
(970 pupils earned grant.)			Rent, &c.,	4	0 0
	268	16 4		268	16 4

BARROW-IN-FURNESS SCHOOL BOARD.

L A U N D R Y.

Opened January, 1893.

Cost of BUILDING, . . . £380 0 0

Cost of FURNITURE, . . . 18 0 6

1893 (NINE MONTHS).

RECEIPTS		EXPENDITURE	
	£ s. d.		£ s. d.
Grant,	32 0 0	Salaries,	41 5 0
From rates,	40 6 3	Fuel, repairs, &c.,	5 3 6
(330 pupils earned grant.)		Replacement, &c.,	4 17 3
		Books, &c.,	18 19 8
		Rates, insurance, &c.,	2 0 10
	72 6 3		72 6 3

YEAR 1893-4.

	£ s. d.		£ s. d.
Grant,	35 12 0	Salaries,	58 15 0
From rates,	30 18 11	Fuel, repairs, &c.,	1 12 4
(356 pupils earned grant.)		Replacement, &c.,	0 19 4
		Books, &c.,	2 1 4
		Rates, &c.,	3 2 11
	66 10 11		66 10 11

YEAR 1894-5.

	£ s. d.		£ s. d.
Grant,	36 18 0	Salaries,	63 15 0
From rates,	54 16 4	Fuel, repairs, &c.,	1 2 3
(369 pupils earned grant.)		Replacement, &c.,	0 10 0
		Books, &c.,	2 5 2
		Rates, &c.,	4 3 11
	71 14 4		71 14 4

YEAR 1895-6.

	£ s. d.		£ s. d.
Grant,	43 10 0	Salaries,	65 0 0
From rates,	34 18 0	Fuel, repairs, &c.,	13 9 9
(495 pupils earned grant.)		Books, &c.,	2 1 2
		Rates, &c.,	2 17 1
	84 8 0		84 8 0

BARROW-IN-FURNESS SCHOOL BOARD.
WOODWORKING CLASS.

Opened January, 1892.

ORIGINAL COST OF FITTINGS, &c.,	£71 13 10
ADDITIONS,	76 5 5

1892 (NINE MONTHS).

RECEIPTS	EXPENDITURE
£ s d	£ s d
Grant,	Salaries,
From rates,	Fuel, repairs, &c.,
	Replacement, &c.,
	Books, timber, &c.,
188 4 7	183 4 7

YEAR 1892-3.

£ s d	£ s d
Grant,	Salaries,
From rates,	Fuel, repairs, &c.,
	Replacement, &c.,
	Books, timber, &c.,
163 5 9	163 5 9

YEAR 1893-4.

£ s d	£ s d
Grant,	Salaries,
	Fuel, repairs, &c.,
	Replacement, &c.,
	Books, timber, &c.,
	Credit balance,
163 9 9	163 9 9

YEAR 1894-5.

£ s d	£ s d
Grant,	Salaries,
From rates,	Fuel, repairs, &c.,
Miscellaneous,	Replacement, &c.,
	Books, timber, &c.,
	Rates, &c.,
278 2 7	278 2 7

YEAR 1895-6.

£ s d	£ s d
Grant,	Salaries,
From rates,	Fuel, repairs, &c.,
	Replacement, &c.,
	Books, timber, &c.,
	Rates, &c.,
315 4 10	315 4 10

XXXI.
MEMORANDUM showing how NATIONAL SCHOOL TEACHERS might be admitted to a COURSE of INSTRUCTION at the DUBLIN METROPOLITAN SCHOOL of ART, by Mr. JAMES BRENNAN, B.E.A., M.R.I.A., HEAD MASTER of the SCHOOL.

METROPOLITAN SCHOOL of ART,
LEINSTER HOUSE,
DUBLIN
May 7th, 1897.

In compliance with the desire of the Commissioners on Manual Instruction in Primary Schools, and subject to the approval of the Department of Science and Art, I beg to submit the details of a scheme by which a certain number of National school teachers might be admitted to a summer course of instruction at the Metropolitan School of Art.

The number of teachers should not, I think, exceed forty, and the course might with advantage extend over a period of three or, perhaps, four weeks.

The hours of attendance should be from 10 a.m. to 3.30 p.m. with one hour's interval for lunch from 1 to 2 o'clock. In the evening from 7 to 9 p.m. during five days in each week, Saturdays to be excepted.

The course would include instruction in freehand, model, and geometrical drawing, and also brush work.

I would propose that the first week should be devoted to instruction of the teachers, by means of lectures, as to the method which should be employed by them in giving instruction to a class of children: the work done by the teachers need not necessarily

be of such an elementary character as would be suited to a class of beginners.

The Time Table would be as follows:—

10 to 11 o'clock,	Freehand drawing.
11 to 12 "	Geometrical do.
12 to 1 "	Model do.
2 to 3.30 "	Brush work.

The evening hours would be spent in the practice of the above subjects.

For the remaining two or three weeks of the course, the teachers would be called upon to teach before the class, so that their style of teaching would be criticised by myself, hints given as to how they should teach, and deficiencies pointed out, if such existed. Marks should, I think, be awarded to the teachers both for their success in method of teaching as well as for the actual work done by them during the course, so that their names would be classified, and a return of their success made to the National Board at the termination of the course.

The Metropolitan School of Art closes on the 31st July, and the course might perhaps extend from the 1st to the 31st July, without any detriment to the ordinary work of the school.

I would desire to point out that this would entail extra work on the part of myself and the members of the staff who might be engaged along with me.

XXXII.

SUGGESTED PROGRAMME in SLOYD for NATIONAL SCHOOLS; put in by Mr. D. HOLLAND,
PRINCIPAL TEACHER, SWORDS NATIONAL SCHOOL.

FOR PUPILS NINE YEARS OF AGE LAST BIRTHDAY.

1. Simple cardboard work.—To cut out simple geometrical figures, in imitation of a drawing supplied, depending on the various divisions of the side of a square; to glue those parts together so as to make them appear like some familiar article.

2. To be able to sharpen a knife and paint a pencil.

3. To be able to use the compass and square.

4. To measure accurately to half an inch.

FOR PUPILS TEN YEARS OF AGE LAST BIRTHDAY.

1. To saw from a board, a piece of wood of similar dimensions to a rectangle drawn on a blackboard.

2. To make a plant label, or small pointer of a given length.

3. To be able to use and explain the following:—Saw, hammer, breadawl, gimlet, turn-screw, nails, and screws.

4. To measure accurately to one fourth of an inch.

FOR PUPILS ELEVEN YEARS OF AGE LAST BIRTHDAY.

1. To saw from a board, prepare with chisel, and nail together, the necessary pieces to form a miniature garden gate, in imitation of a drawing supplied (no planning or mortising.)

2. To sharpen a hatchet or hoe.

3. To be able to use and explain the following:—Spokeshave, gauge, chisel, hatchet, nail punch, and snips.

4. To measure accurately to eighths or tenths of an inch.

FOR PUPILS TWELVE YEARS OF AGE LAST BIRTHDAY.

1. To know how to make a simple bracket from any one of three drawings practised during the year.

2. To dowel two pieces of wood, in presence of the Inspector.

3. To be able to use and explain the following:—Marking-gauge, spirit level, bevel and bit.

4. To measure accurately to the twelfth of an inch.

FOR PUPILS THIRTEEN YEARS OF AGE LAST BIRTHDAY.

1. To understand working drawings of two simple articles, such as a common table, a field gate.

2. To make a simple tenon and mortise in presence of the Inspector.

3. To be fairly expert in the use of the various planes, and to grind and sharpen a plane iron.

4. To measure accurately to the sixteenth of an inch.

FOR PUPILS FOURTEEN YEARS OF AGE AND UNDER SIXTEEN YEARS.

1. To understand working drawings of simple models.

2. To make in presence of Inspector a single dovetail joint. To rabbet and mitre cut four pieces of wood to form a picture frame.

3. To be able to explain and use the various tools commonly employed in carpentry.

4. To be expert in the use of the two foot ruler and tape. To approximate to the dimensions of any article shown, without actual measurement.

At Separate Examination, each pupil in all the Classes, should exhibit one article made by himself within the year.

D. HOLLAND,
Swords.

XXXX.

MEMORANDUM put in by Mr. ARNOLD GRAVES.

MANUAL AND PRACTICAL INSTRUCTION.

In accordance with the invitation of the Commission on Manual Instruction, I beg to submit the accompanying memorandum showing how the recommendations of the Technical Education Association in relation to Manual and Practical Instruction, numbered 5, 6, 7, 8, 9, 10, 11, 12, and 14 in the memorandum submitted by them to the Board of National Education, might be carried into effect in Irish Primary Schools.

For the purposes of convenience I propose to deal with these recommendations seriatim, and I print in italics everything which may be regarded as a recommendation or a precedent.

RECOMMENDATION 5.

That facilities be afforded to all existing male teachers to further qualify themselves to teach elementary science, drawing, and handicraft, or Sloyd; and that similar facilities be afforded to female teachers to qualify in drawing, cookery, laundry-work, and dressmaking.

English Precedents.—In England existing elementary school teachers have been afforded facilities to qualify to teach drawing, elementary science, and technical subjects, by most of the County Councils, as part of their general schemes of technical instruction. Similar provisions might possibly be made in Ireland out of the funds proposed to be placed at the disposal of a Board of Agriculture and Industries. I should be disposed however to suggest that in the case of Ireland it should not be left to the Local Authority to provide such facilities, but that the Board of Agriculture and Industries itself should be asked to provide them after consultation with the National Board.

The manner in which English County Councils have afforded these facilities might to some extent be followed. The general principle adopted by them has been to establish suitable centres where special classes have been held for training elementary school teachers in manual and practical subjects. These classes are as a rule free, and free travelling expenses are given. The classes are—(a) in some cases evening classes to meet the teachers of urban schools; (b) in others, Saturday classes or short vacation classes to suit rural schools. At the close of these courses certificates are held, and in most cases certificates given. The Education Department recognises some of these certificates, and in other cases the competency of the teacher so trained is tested by its officers when inspecting and commencing the schools.

As regards cost, I may point out that County Somerset, in 1893, expended in training elementary school teachers the sum of £461; Hampshire expended £1,050; Berkshire, £400 + travelling expenses; Cheshire, £1,500; and Dorset, £500.

In order to enable teachers to make arrangements to attend special courses of study, it would be necessary to amend Rule 144, sub clause (c), by adding the words, "or other place of training approved of by the Commissioners."

In order to put pressure upon existing teachers to qualify to teach these subjects, I would suggest the expediency of framing a rule that in future no teachers shall receive higher classification unless they qualify in drawing, and at least one branch of elementary science.

With the same object in view, I would also suggest the expediency of prohibiting National School teachers after the year 1900 from training pupil teachers or seniors until they shall have qualified to teach drawing and one branch of elementary science, and I would suggest the expediency, at the earliest possible date, of including drawing and elementary science in *ministers' and pupil teachers' courses*.

RECOMMENDATION 6.

That after a certain date drawing and manual instruction, or Sloyd, be made compulsory subjects of instruction for boys in all National schools (or at any rate in urban schools); and cookery, plain sewing, and dressmaking compulsory for girls in all National schools without exception.

Although I am disposed to agree with Mr. Brennan, Head Master of the Metropolitan Drawing School, in thinking that it is desirable that drawing should not be taught by teachers who have not received a full year's training in drawing, still, on the principle that half a loaf is better than no bread, I see no choice but to follow English precedent, and to rest satisfied, at first, with a lower standard of qualification, which might be gradually raised.

To begin with, I should advise that as soon as practicable—say in 1899—linear drawing should be made compulsory. A short course of six weeks ought to qualify a teacher to teach this subject, which is of the utmost value to skilled workmen. Afterwards, I should be disposed to advise making free-hand drawing a compulsory subject of instruction in the higher standards, later on, instruction in model drawing might possibly be added in the sixth standard.

With regard to elementary science, a similar policy elementary science might be pursued with advantage. Thus—a short course might be made by making object lessons compulsory throughout the standards, and later on, physiography might be made compulsory in the higher standards (as I understand it will be in England shortly). A three months' course, or two six weeks' courses, would be sufficient to train an intelligent teacher to give suitable object lessons, and therefore there is no reason why object instruction should not be made compulsory in 1890, and physiography in 1903.

As regards cookery for girls, while I recognise its importance importance, I confess that I see insuperable difficulties in the way of making it compulsory in all schools. But it might with advantage be made compulsory for the higher standards in all centres where instruction is available, the question as to whether or not it is available being left to the inspector.

As regards plain sewing and dressmaking, the case is different. As the rules of the National Board stand at present these subjects are compulsory in all schools where there is a female teacher or a workmistress. But I am given to understand that there are a certain number of schools where there are neither female teachers nor workmistresses. Nearly all these schools, however, are small, and it would be wasteful to appoint workmistresses for each school. But the difficulty might be overcome by appointing peripatetic teachers—a general question with which I propose to deal later on.

A regards manual instruction, perhaps I may be allowed to repeat some of the evidence I gave before the Commission.

If manual instruction is to be given by the ordinary National school teachers, Sloyd has many advantages. A teacher can be trained to teach Sloyd in three months. The system with all its faults has been very carefully and philosophically worked out. Each model introduces with due regard to the gradation of difficulties some new tool or fresh exercise. It has the advantage of cheapness, and it can be taught by female teachers. There is, however, I am sorry to say, a distinct prejudice amongst our National school teachers against teaching handicraft. Very few of those who have been trained teach it. I do not think, however, that they would object so strongly to teaching Sloyd, which purports to be a philosophical education of the hand and eye.

But there is another side to the question: the Sloyd models and exercises are based upon Swedish life and the models, and indeed the principal tool—the knife—are selected from objects in use in the Swedish home and not the Irish home. There is another objection to Sloyd—that hitherto it has not been taught in connection with drawing. This, I think, is a great mistake, but it is one which can be easily remedied. Another objection, which I have heard raised by competent authorities to Sloyd is that round work is introduced at too early a stage. The advocates of Sloyd insist that the round work has a great educational advantage in that it cultivates the æsthetic sense. To show its opposite answer that round work is extremely difficult to execute in wood, but very easy to execute in clay, and that the æsthetic sense is far more easily cultivated by means of modelling and drawing.

Although no philosopher, like Herr Salomon, has devoted himself to the perfection of a similar system for this country, there are some excellent English text books, like those of Mr. Rucka, Mr. Barber, and Mr. Vaughan, in which well-graded series of models and exercises have been elaborated; and with this great advantage, that in these systems the working drawings of each model are given.

For my own part, I think that a compromise between the two systems would be the best; but I should be disposed, for reasons stated above, to call the new system "Sloyd" or "English Sloyd," or perhaps "Irish Sloyd."

I think it will be a matter for the grave consideration of this Commission as to whether manual instruction would be better taught by the ordinary National school teachers, or by specially educated mechanics. Hitherto it has been found very difficult in England to induce the school teachers to take up the subject, and, as I have already pointed out in my evidence, unless the course of training at our Training Colleges is extended beyond two years, it will be difficult, for the present, to train students in the Irish Training Colleges in this branch of work. Of those who have been trained to teach handicraft, I am sorry to see that very few are teaching it.

There are certain advantages in employing artisans to give manual instruction. An artisan teacher inspires greater confidence—he is a better workman; and if he were trained to draw, and had studied science, he might be able to make his lessons generally as well as practically instructive. But for this purpose he would have to be taken comparatively young, and specially trained. The question is one, however, which will work itself out in practice. If our National school teachers threw themselves into the movement, and made up their minds to give manual instruction, such an arrangement would have considerable advantages. If, on the other hand, they hold back, the subject must be taught by trained artisans. On this point I would refer the Commission to my remarks later on, when I come to deal with peripatetic teaching.

The next difficulty that meets us is want of accommodation. In London, where accommodation is often not available, the difficulty is met by sending drafts to special centres, where specially skilled teachers are employed.

If such a course were adopted here, it would be desirable that linear drawing should be taught at the same centre as woodwork to the drafts sent there, as by this means we might insure that the drawing lessons, and the lessons in manual instruction should be given in relation to each other. If it could be arranged to give science lessons at the same centres, the difficulties with regard to the supply of qualified teachers, the expense of plant and laboratory accommodation, might all be overcome in towns. Specialists would teach all the subjects, and one plant, one set of classrooms and laboratories would suffice for a group of schools. By adopting this plan; and by making the higher classes in each school attend on one day each week at this centre, instead of at their own schools, all the boys in the higher standards at urban schools might be taught freshened drawing, photography, and Sloyd at a moderate cost, while the ordinary National School arrangements would remain very much as they are.

Admitting that what is required is not less literary, but more practical teaching, the question at once arises—how is this to be provided?

On the question of finding time in the ordinary school course for these extra subjects, I would point out that the present minimum Irish school day is very short—only four hours—and that Irish schools only meet on five days in the week. There may be difficulties in the case of country schools in leaving morning and afternoon school, but in town schools I see no insuperable difficulty in it, and it is in town schools that the wider curriculum is required. The Irish school day is about the shortest in the world, and I am disposed to think it encourages habits of idleness. Though I should be sorry to see infants kept at work for more than a few hours in the day, I think it would be desirable that children over eight years of age should attend for at least five hours every day, and three hours on Saturdays.* In urban schools I would have morning and afternoon school—but I would dismiss the subjects after morning school, so that for the rest of the school day more time could be devoted to the older children. In this way eight clear hours might be added to the time available for instruction every week. This would give time for two hours' instruction in drawing, four hours of elementary science, and two hours of manual instruction per week. If sufficient time could not be procured in this way, I should be disposed, instead of devoting time in the time-table of the higher classes to reading, writing, and spelling, to make every lesson indirectly a lesson in reading, writing, and spelling. I should be disposed to curtail the amount of time expended on formal grammar, but I would make up for this by making every lesson indirectly a grammar lesson. That is to say, I would correct every error in grammatical speech or writing as it occurred. I might point out that in English geography is only optional. Though it is admittedly a useful subject, I cannot for a moment pretend that it is as useful as drawing which takes its place in the English primary school, where geography is only one of the class subjects.

One other point I must not overlook, and that is finance. Here let me point out that in England drawing and manual instruction in Elementary Schools are paid for out of the votes of the Science and Art Department.

If the Committee decide to adopt recommendation 6 of the Technical Education Association, either in whole or part, the following alterations in the rules of the Board might, with advantage, be made.

Rule I.—Insert the word "practical" after the word "mental."

* I am informed that Saturday school was not an unusual thing in Ireland twenty-five years ago.

Control
factor in the
the Teaching
of Drawing,
Sloyd, and
Elementary
Science

Time.

Money.

Department
of Science
and Art.

Rule 9.—Omit "In which female teachers or work-women are employed."

Rule 116.—Further words "Examination for results" substitute "Annual Examinations."

Rule 116d.—Add a rule for urban schools similar to the English rule, requiring two attendances per diem, but vary the English rule by requiring the total attendance for weekly instruction not to fall short of five hours per diem, with one attendance of 3 hours on Saturdays for all children in the standards.

Allow attendance at centres approved by the Board to count as attendance at the school.

RECOMMENDATION 7.

That better provision be made for practical instruction in agriculture in training colleges and in the ordinary rural National schools.

The seventh recommendation is one which I do not propose to discuss at length. But I would briefly summarise the situation thus: (1) Agriculture taught out of a book alone is worthless, and the money thus wasted should be utilised in other directions; (2) Agriculture not based upon some knowledge of chemistry, botany and physiology is not in any sense technical education. It is mere industrial training. Before agriculture can be taught as an applied science, the foundation must be laid by teaching the sciences on which it is based. The question then arises: is there time to teach agriculture as well as elementary science in schools, when the boys leave school as a rule at twelve? I am disposed to doubt it. At the same time I think that it would be quite possible, after laying the foundation by suitable object instruction in the lower standard to give the science teaching in botany, chemistry, and physiology in rural schools such a practical character as almost to amount to instruction in elementary agriculture, and to provide the rising generation of farmers with much valuable information, and with a thirst for scientific knowledge in relation to the farm. For example, one might take soils and the principal manures, and from these select a certain number of elements and combinations, such as oxygen, hydrogen, carbon, potash, phosphorus, ammonia, lime, water, the phosphates. The chemistry I would teach would be in the main elementary of these elements and combinations. In addition I would interest the children in agriculture by explaining popularly something about plant food—what the plant takes out of the soil, out of air, out of water, what special food each plant requires, and how by the use of manures, the food which is not in the soil, air, or water may be provided by the instrumentality of manures.

As regards the teaching of elementary chemistry, botany, and physiology in rural schools, it is obvious, owing to the distances of schools from each other, that these subjects could only be taught by the ordinary National School teacher. The supply of teachers qualified to teach these subjects must therefore be through the Training Colleges, and by establishing centres where existing teachers may be afforded opportunities of qualifying.

As regards cost, I would point out that the large sum actually wanted in teaching agriculture out of books would be available.

RECOMMENDATION 8.

That laundry work be recognised as an optional subject of instruction in National Schools, and that laundry be taught as an optional subject in the female departments of all Training Colleges and Model Schools.

As this recommendation has been already substantially adopted there is no occasion to deal further with it.

RECOMMENDATION 9.

That in all schools where there is a kindergarten department, properly graduated object and manual lessons and training of hand and eye be continued throughout the entire school course.

As a commentary upon this recommendation the following extract from the revised instructions to inspectors issued by the English Education Department in 1897, page 14, is valuable.

10.—"It should not be forgotten that the principles which underlie the system of kindergarten occupation do not cease to be applicable when a scholar quits the infant school or department. For example, elementary drawing, dialogue, picture and object lessons, the cutting-out and inventing of paper patterns, modelling, weighing and measuring, arithmetical drill, and the use of simple tools, are not only useful in diversifying the day's employments in the lower standards of the school for older scholars; but they will be found to increase the brightness and intelligence with which those children pursue the regular course of elementary instruction. Moreover, such exercises will serve as a valuable link connecting the work of the infant school with some of those forms of technical or manual training which are now, with very great advantage, adopted in the upper classes of many good schools. It is one of the chief objects of the Kindergarten to establish a right and harmonious relation between those lessons which are addressed to the memory and the understanding of a child, and those interesting manual and other exercises which call forth his active and creative powers. And thus is an object which ought to be kept steadily in view throughout all the subsequent stages of a scholar's career in a public elementary school."

The Commission have had much evidence before them as to the losses between the kindergarten and science and manual instruction in the higher standards of Irish National Schools, they have also taken a good deal of evidence on the subject in England, where the matter has received the most careful consideration from the Department, and whose various experiments have been made, the outcome of which has been the adoption (1) of the *alternative course in elementary science (including object lessons in the lower standard)*, a course which, with slight modification, might be adopted in Ireland; (2) of *intermediate kind training*, including paper work, card-board work, and varied occupations; (3) of *drawing*, right through the standards; (4) of *manual instruction in the higher standards*.

As these matters have been dealt with in my remarks on the 5th and 6th recommendations of the Technical Education Association, there is no occasion for me to pursue the matter further.

RECOMMENDATION 10.

That the course of instruction in science laid down by the National Board be revised and simplified and the science text-books brought up to date.

It is a strange fact that in England, where science is more widely taught both in schools and in training colleges than in Ireland, the courses laid down by the English Education Department are far simpler than those prescribed by the National Board. In my evidence I instanced several cases where work required in the third stage in England was prescribed in the first stage in Ireland. I drew attention to the fact that too much theoretical and no practical work was prescribed in the Irish science courses, that no provision was made for supplying the schools with the necessary apparatus for teaching science, and that

Irish science textbooks in use were, as a rule, theoretical works written down to the requirement of the National Board Syllabus.

I pointed out that in England it was provided that instruction in elementary science should be given mainly by experiment and illustrations, and accordingly that the book market was well supplied with text-books treating the subject experimentally.

I am satisfied that free trade in books which has filled the English market with cheap and good elementary science text-books would do the same for Ireland, provided that the trade were not hampered by venal changes and restrictions.

In the case of literary readers there may be some difficulty in this "distressed" country, which is torn by religious and racial differences, but in the case of science readers, and text-books, and in technical subjects, I am sure you will reason why the managers should be left to exercise their own discretion (subject to the approval of the Inspector).

We are met here, however, by another difficulty. Owing to the enormous sale of school books in England text-books can be produced at a very low cost, whereas in Ireland, unless a monopoly is given to particular firms, or books, it is impossible to produce text-books specially for the Irish markets cheaply.

Hitherto the difference between the English and the Irish codes has precluded Irish scholars from using English text-books, and vice versa. For my own part I am satisfied that the syllabus of the English Education Department is distinctly in advance of ours, and that in science of any rank, it might be temporarily adopted as a guide. The advantages which would arise from such an arrangement would be that we should be able to avail ourselves of the best English text-books, while books published in Ireland to meet the requirements of the new code would be saleable in England. We should be availing ourselves of the experience of the English Education Department, which has been steadily advancing during the past five and twenty years, during which time we have been almost standing still. And last but not least we should disarm all opposition from the Treasury who could not oppose an application to place our educational standard on a level with that of England.

As arising out of this last recommendation I would point out that the English School Boards have construed the term "Free Education" differently from the National Board, and that school books are provided gratis by a large number of English School Boards, at a cost of from 2s. 6d. to 5s. 6d. per head. If the Treasury consent could be obtained to a similar expenditure of money in Ireland a considerable element in the school book difficulty would be removed.

If free trade in books is adopted Rule 3 of the National Board should be amended.

RECOMMENDATION 11.

That peripatetic or extern science, art, and technical teachers be paid by salary.

In the memorandum submitted by the Technical Education Association the following passage appears.

"Under the present system where each school is under separate and independent management, it is idle to expect reasonable men and women to become extern or peripatetic teachers on the off-chance of being able to earn a scanty living out of results free. In England, where all the schools of a district are under a single School Board this difficulty does not arise; for wherever it is desirable, the Board engages peripatetic teachers for its district and pays them by salary. There can be no doubt, whatever, that this is often highly desirable. Some subjects can only be thoroughly taught by specialists; others, such as science and art, are better taught by specialists; and wherever they are available, we think they should be preferred. We must not forget, in urging the

claims of peripatetic teaching, that the employment of an extern teacher would frequently enable instruction to be given in a subject in the interval during which the National School teacher was being trained to teach it. As we have elsewhere pointed out, difficulties would arise in engaging travelling teachers in Ireland; but the difficulty is not insurmountable. Once the National Board places the extern teacher on the same footing as the ordinary National School Teacher, private organizations would spring up for providing them."

This system has been tried in the case of cookery and laundry work, and has succeeded, and I see no reason why it should not succeed equally well in other cases.

At present students on training enter training colleges with little or no knowledge of science, art, or practical subjects. They have to pass three examinations (including entrance) and the men have, in two years to acquire a fairly extensive knowledge of grammar—composition, English literature, geography, arithmetic, algebra, geometry, mensuration, book-keeping, agriculture, theory of method, practice of teaching, drawing, besides one optional subject. Having regard to the fact that most of them are ignorant of drawing and literature when they enter, and to the extent of new ground to be covered in other subjects, it is obvious that students in training, with only a two years' course, could not devote sufficient time to the study of science or Lloyd to qualify to become science or Lloyd teachers. For some time to come, therefore, it is obvious that unless peripatetic teachers are employed these subjects cannot be taught in National schools.

I do not think I could find a more suitable place than this to print a letter I have received from the Secretary of the Liverpool School Board in reply to my queries as to manner in which the system of peripatetic teaching works in his district.

"Municipal Office, Liverpool.

"15th June, 1897.

"DEAR SIR,—I very much regret that I have not had an earlier opportunity of replying to your communication of the 7th ultimo, and trust that the information I now send will not arrive too late to be of service to you in the preparation of the memorandum to which you refer. The following replies to the queries contained in your letter refer to teachers of science only, as the teachers of manual instruction do not work on the peripatetic system:

1. By whom the peripatetic teachers are appointed?
By the School Management Committee, subject to the confirmation of the Board.
2. For what term?
Subject to three months' notice on either side.
3. At what salaries in the various subjects, and by whom are salaries paid?
The salaries are paid by the Board, and are as follows:—Science Demonstrator £250, rising £10 per annum to £300; first Assistant Science Demonstrator £130, rising £10 per annum to £170; Assistant Science Demonstrator £100, rising £5 per annum to £120, together with 1s. 10d. of the grant received from the Science and Art Department and City Council (Technical Instruction Grants and Rates Act, 1889).
4. What certificates of fitness are required?
Certificates recognized by the Department of Science and Art as qualifying the teachers to earn grants from that Department in respect of the subjects taught. As a rule, the teachers produce further evidence of qualifications, as science degrees, Association of the Normal School of Science, etc.
5. What provision is made for the supply of teacher's apparatus?

6 In what cases does the teacher bring round his apparatus with him?

The apparatus is prepared at a centre, and forwarded in a box to the school at which the lesson is to be given. From this school it is forwarded to another where the same lesson is given at a subsequent time. Finally the box returns to the centre.

7. What is the approximate cost of apparatus in each case?

For elementary chemistry and mechanics the cost of a complete set of apparatus is in each case about £15. Of course a large number of classes can be taught in succession by the aid of the one set of apparatus.

8. Out of what funds are the apparatus provided?

The cost is apportioned among the classes at which the lessons are given.

The instructors in manual instruction are each in charge of a centre at which the scholars from neighbouring schools attend for instruction. Each centre is provided with bench accommodation for thirty-six boys. The cost of a bench to accommodate four boys is about £4 or £5, and the cost of the necessary tools is about £1 per boy (or bench place).

I should be very happy to supply you with any further information on hearing from you to that effect.

I am, dear sir,

Yours faithfully,

EDWARD M. HANCOX.

Arnold Graves, Esq.,

11, Leinster-street,

Dublin.

The principal difficulty in the way of employing peripatetic teachers in Ireland is, that each school in Ireland is under a separate management. This difficulty could be overcome if the National Board would agree to recognise management of groups of schools. I do not mean through the agency of representative School Boards, but by the voluntary associations of managers. This principle has been recommended in England. The Voluntary Schools Act, 1897, Section 1, providing that as follows:—

1. (1) For aiding voluntary schools there shall be annually paid out of moneys provided by Parliament, an aid grant, not exceeding in the aggregate five shillings per scholar for the whole number of scholars in those schools.

(3.) The aid grant shall be distributed by the Education Department, to such voluntary schools, and in such manner and amounts as the Department think best, for the purpose of helping necessitous schools, and increasing their efficiency, due regard being had to the maintenance of voluntary scholasticism.

(3) If associations of schools are constituted in such manner, in such areas, and with such governing bodies, representatives of the managers as are approved by the Education Department, there shall be allotted to each association while so approved,

(a.) A share of the aid grant to be computed according to the number of scholars in the schools of the association at the rate of five shillings per scholar, or, if the Department fix different rates for town and country schools respectively (which they are hereby empowered to do), then at those rates; and

(b.) A corresponding share of any sum which may be available out of the aid grant after distribution has been made to associated schools.

(4) The share so allotted to each such association shall be distributed as aforesaid, by the Education Department after consulting the governing body of the association, and in accordance with any scheme prepared by that body, which the Department for the time being approve.

(5.) The Education Department may exclude a school from any share in the aid grant which it might otherwise receive, if, in the opinion of the Department, it unreasonably refuses or fails to join in such an association, but the refusal or failure shall not be deemed unreasonable if the majority of the schools in the association belong to a religious denomination to which the school in question does not itself belong.

(6.) The Education Department may require, as a condition of a school receiving a share of the aid grant that the accounts of the receipts and expenditure of the school shall be annually audited in accordance with the regulations of the Department.

(7.) The decision of the Education Department upon any question relating to the distribution or allotment of the aid grant, including the question whether an association is or is not in conformity with this Act, and whether a school is a town or a country school, shall be final.

If Irish Schools were grouped together—groups of schools might arrange to employ peripatetic teachers—with great advantage to themselves and economy to the department. Such an arrangement would also render the supply of school books and teaching appliances easier.

If the suggestion as to the payment of peripatetic teachers by salary is adopted, Rule 126 should be altered, and peripatetic teachers formally recognised by the Board.

RECOMMENDATION 12.

That steps be taken to ensure that elementary schools are properly supplied with appliances for instruction in science, art, and technical subjects.

In the report of the Technical Education Association the following passage appears:—

Supply of Appliances.—"In dealing with elementary science, art, and technical instruction we must not overlook the question of the supply of teaching appliances. Under existing arrangements it practically devolves upon the teacher to provide the apparatus out of his own pocket—an arrangement unknown in any civilized country. As a consequence, Irish schools are, as a rule, ill supplied with even the ordinary apparatus for teaching, and teachers naturally object to teaching technical and science subjects which entail the purchase of expensive teaching appliances. We would point out that the Science and Art Departments make grants in aid of the purchase of apparatus for teaching science and art, and we respectfully submit, if the Treasury cannot see their way all at once to provide teaching apparatus free, that at least half the cost of providing it should be provided by the Education Department. The manager might be made responsible for the other half, but in no case should the teacher have to pay. Now that we have free education it should not be difficult for managers to collect ample funds for this important purpose from their parishioners."

In England the School Board provides school requisites out of the rates, and even in the case of voluntary schools the grant in aid is withheld unless the Inspector certifies that the school is properly supplied with teaching apparatus. In London last year the

Grouping of Schools.

Aid Grant to Voluntary Elementary Schools.

out of school requisites provided by the School Board amounted to £74,000 for an average daily attendance of 180,000 pupils.

While on this subject I should like to bring under the notice of the Commissioners a project which I understand is under the consideration of the Royal Dublin Society to hold an *Educational Exhibition in Dublin* at an early date. Such an Exhibition would bring prominently under the notice of Irish school teachers and managers the most modern school books and appliances, and the most approved method of teaching. It would, in my opinion, be the best way to inaugurate a new departure in our elementary school system, and from what I can gather the leading English and foreign school publishers and providers of teaching appliances would exhibit. The Exhibition would include demonstrations and model lessons given to illustrate the use of the various appliances, and the most modern methods of instruction and a conference of school teachers and managers will probably be held in connection with it. I would respectfully suggest that if this Exhibition is held, it would be desirable that the revised National Board list of books, etc., should not be published until after the exhibition.

If the recommendations of the Technical Education Association relative to the supply of teaching appliances are adopted it would be necessary to amend Rule 10 by adding a sub-clause providing that the Commissioners of National Education will award and towards providing teaching apparatus in accordance with a schedule to be prepared subject to the approval of the Treasury.

In order to bring pressure to bear upon school managers to provide their proportion of the funds necessary for the purpose, I would be disposed to suggest the expediency of ultimately adding a provision at the end of this section that aid, whether in the shape of salary, results fees, etc., shall be conditional upon the Inspector's report that the School is properly supplied with books, school requisites, fittings, furniture, and teaching apparatus necessary for elementary instruction.

In the same way in Rule 12 I would suggest that a proviso should be added that building grants will not be made to urban schools unless suitable provision is made in the plans for providing accommodation for the instruction of the pupils in elementary science, drawing, manual instruction, and perhaps cookery. This Rule might be made not to apply in cases where a suitable central school exists to which drafts could be sent.

Again the table in Rule 17 showing the scale of accommodation required to enable managers to receive building grants would have to be modified, and having regard to the need not only for additional class rooms, but also for the absolute necessity of a more generous supply of school fittings and teaching appliances, the Board of Works' Estimates would have to be proportionately increased.

Rule 19 should be amended by striking out the word "fittings."

Rule 30 should be amended by providing that before taking an urban school into connexion the Commission will require to be satisfied that adequate accommodation is provided for teaching drawing, elementary science, eldred, and cookery.

Rule 31 should be amended by providing that to warrant continuance of aid the school must be kept sufficiently provided with fittings and apparatus necessary to teach practical subjects.

Rule 119 should be amended by making it the duty of the Inspector to report on the supply of school books, fittings, and teaching apparatus in each school.

Rule 155 should be amended by adding to the duties of the teacher, *keeping the school fittings and apparatus for teaching in proper condition for use.*

A special rule should be made enabling leave to be made for the purpose of building laboratories, science class rooms, drawing rooms, class rooms for teaching cookery, or workshops for teaching manual instruction.

RECOMMENDATION 14.

That more practical subjects be included in the night school course.

The following passage occurs in the last Annual Report of the Technical Education Association:—

"A reference to the English and Scotch Codes for night schools shows that in night schools a distinctly technical bias is given to the course of instruction, which included such subjects as drawing, manual instruction, science, cookery, laundry work, and dressmaking. In England the rate of grants for evening scholars is 18s. and the vote £135,000. In Scotland it is £1 per head and the vote £61,581. (See pp. 335 and 384.)

"The effect of making evening schools more practical and attractive, and of encouraging teachers to persevere by increasing the grants from 5s. 9d. in 1863 to the present rate has been that there has been an enormous increase in the number of and attendance in these schools.

"The numbers at present stand as follows:—

"*Estimated Attendance at Evening Schools for 1894.*

"England,	158,590
"Scotland,	63,482
"Ireland,	1,880

"In investigating the facts of the case we find Rule 8 of the Commissioners of National Education, Ireland, declaring that aid is limited to salary and results fees; and Rule 108 providing that the teacher's salary is £1 for each week during which the school has been open, with an average monthly attendance of not less than twenty-five bona fide evening school pupils (who do not attend the day schools). In the official Rules and Regulations, p. 65, note to the Programme of Pupils (IX. A), it is further provided that results fees will be paid for reading, spelling, writing, arithmetic, and book-keeping, above of the ordinary branches, and that not more than two extra branches can be taught; and that when payment is made for such branches no fees will be paid for the ordinary branches in respect of the same pupil. Considering the unattractive and unspectacular nature of the programme and the small inducement given to teachers, it is not surprising to find that on 31st December, 1894, there were only forty-five evening schools in operation in Ireland, with an average of 1,880, as against Scotland's 63,482; while the vote for evening schools in Ireland only reached £500."

In England and Scotland separate Codes are used for night schools, and my suggestion would be that the National Board should adopt a similar course in Ireland. The English Code, with slight modifications to suit the requirements of the country, would form an excellent precedent.

30th June, 1896

ARNOLD GRAVES.

XXXIV.

DOCUMENT put in by Miss M. MCCARTHY, Instructor in Cookery, Baggot-street Training College, Dublin.

PROGRAMME OF COOKERY.

4TH BOOK.—(TOWN AND COUNTRY).

Scullery Work—

1. Method of lighting a fire.
2. Cleaning and keeping in order a stove in town, open fire-grate in country—management of oven.
3. Best way of cleaning cooking utensils.

Fish—

4. Cleansing and preparation of fresh and dried fish for cooking.
5. Method of charring fish.

Meats—

6. Preparation of salt meat for cooking.
7. To broil and fry a chop and steak.
8. To reheat cold meats.

Vegetables—

9. To prepare and cook vegetables in common use—as potatoes, onions, carrots, turnips, cabbage, peas, beans, and cauliflower.
10. To reheat cold vegetables.

Puddings—

11. To stew fruit.
12. To make and garnish a cornflour sago.
13. To make milk puddings.

Bread—

14. To make soda bread.

Sandwiches—

15. To pickle vegetables.
16. Various ways of cooking eggs.
17. To make tea, coffee, cocoa.

Sick Room Cookery—

18. To make beef tea.
19. To toast bread.
20. A cup of gruel, lemonade, barley water and porridge.

5TH BOOK.—(TOWN).

Soups—

1. To make stock.
2. Gravy soup, mutton broth, potato soup.

Fish—

3. To fry or broil any fish, and garnish it.
4. Any boiled fish and white sauce.

Meats—

5. Method of choosing meat.
6. To boil sheep's head, and serve with parsley sauce.
7. Liver and bacon.
8. An Irish stew.

Meats—continued.

9. To cook salt meat, as bacon, corned beef with cabbage.
10. A hashbrown pie.

Vegetables—

11. Various ways of cooking potatoes.
12. To dress a salad.

Pies and Puddings—

13. To make plain pastry for tarts.
14. Boiled fruit puddings.
15. A custard pudding, and sweet omelette, pancakes.

Bread and Cakes—

16. Brown bread, scones, tea cakes, plain currant and seedcakes.

Sick Room Cookery—

17. A cup of custard.
18. Cup of arrowroot.
19. Beef sauce.
20. Savoury omelette.

5TH BOOK.—(COUNTRY).

Soups—

1. To make stock.
2. Chicken broth.
3. Macaroni soup, vegetable soup.

Fish—

4. To fry or broil any fish and garnish it.
5. Any boiled fish and white sauce.

Meats—

6. To dress, cook, and serve a rabbit.
7. To boil or roast a fowl or duck, and serve with white or brown sauce and brown gravy.
8. To make brown.
9. Bacon and cabbage.

Vegetables—

10. Various ways of cooking potatoes.
11. To dress and serve a salad.

Pies and Puddings—

12. To make plain pastry for tarts.
13. Boiled fruit puddings.
14. To make jam.
15. Sweet omelette and pancakes.

Bread and Cakes—

16. To make griddle bread.
17. To make crumpets, muffins, tea cakes, and saffron buns.

Sick Room Cookery—

18. A cup of custard and arrowroot.
19. Chicken jelly.
20. Savoury omelette.

XXXV.

DOCUMENTS put in by Mrs. FOWER LALOR.

(1.)

SUGGESTIONS and REMARKS made at the request of the COMMISSION ON MANUAL AND PRACTICAL INSTRUCTION.

First.—To exclude formal grammar from the programme for girls' education.

Secondly.—To confine geography to a knowledge of—

Generally.—The Map of the World.

Particularly.—Ireland, the British Empire, America, North and South.

Arithmetic.—To be confined to simple and compound rules, and practice. Mental arithmetic to be carefully encouraged.

Needlework to be supervised by a woman.

As The Industrial Programme. It should at once be publicly and extensively made known that it is optional for pupils to take up the literary course, if their parents prefer it, in the same school where the industrial has been adopted.

In the Needlework Programme of the Industrial Section—plain needlework, shirtmaking, cutting out and making of dresses, the adaptation of an old dress to a child's frock, knitting socks and stockings, mending, darning and patching to be obligatory.

Cookery, also laundry and skilled instruction in dairying, poultry and bee-keeping to be optional on the programme.

Useful text-books on the subjects chosen to be used as reading books, and exercises on the subjects written by the pupils. Composition exercises also on the management of a house, detailing day's work, week's expenditure, use of food—to be encouraged. Arithmetic to be continued on the same ground—giving weekly bills and expenditure for differently constituted families.

To meet the difficulty as to existing teachers of Needlework—where sufficient valid reasons exist to

justify a Manager making the request—an expert teacher should be sent to the locality by the National Board to give the necessary instruction, and arrangements made for the teacher if possible to follow the course.

Cookery classes ought to be repeated by an expert in the same localities to have the desired effect.

A small fee might be paid by the pupils of the cookery class towards materials.

The programme of rural schools to be different from that of towns.

Great elasticity in the choosing of subjects in the Industrial Programme so as to suit different districts.

A meeting if possible to be arranged of the heads of the two great teaching orders for girls—the Sisters of Mercy and Charity—and other bodies interested in female education, and the heads of Training Colleges to confer together on advisable alterations.

MARY POWER LALOR.

September 16, 1897.

(2)

PEOPLE'S SCHOOLS IN GERMANY.

The following passages were taken by me from the books in use in the People's Schools in Germany, and were procured for me by one of the teachers, who told me they formed their text-books as teachers. They are entitled "Curriculum for Schools of from 3 to 6 Classes, by Dr. Schumann, Government and School Commissioner. In two Parts. Published at Cologne in 1886."

Some of the observations may be found useful, as showing the high standpoint education takes in Germany. They have not been taken consecutively, but where they seemed to me to be useful.

The curriculum of the People's Schools is divided into three parts:—

- 1st. For schools of from three to six classes
- 2nd. " " " two or three classes.
- 3rd. For these schools of a single class, or half-day scholars

5 weeks' holiday in summer.

3 weeks' holiday for the rest of the year.

ON EDUCATION AND INSTRUCTION.

Although the curriculum, true to its name, only mentions what is to be learned and taught during school hours, the teacher must consider what is of far more importance than mere learning—the moral training of the pupil—without which no education can have a blessing. This is not excluded from the daily work; on the contrary, above all things, solid instruction in religion should be given, and every lesson should tend to make the pupils good, honest men, and useful members of society—true and loyal to Church and State—and the teacher's own personal example should powerfully tend to promote the temporal and eternal welfare of his pupil.

PLAN OF HOURS.

LOWER GRADE.

Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
8 to 9,	Bible History.	Catechism.	Arithmetic.	Bible History.	Catechism.	Arithmetic.
9 to 10,	Arithmetic.	Reading.	Composition.	Arithmetic.	Reading.	Composition.
10 to 11,	—	—	Reading.	—	—	Reading.
1 to 2,	Reading.	Writing.	—	Reading.	Writing.	—
2 to 3,	Gymnastics or Handicraft.	Singing.	—	Gymnastics or Handicraft.	Composition.	—

MIDDLE GRADE.

Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
8 to 9.	Bible History.	Catechism.	Sums.	Bible History.	Catechism.	Sums.
9 to 10.	Sums.	Grammar.	Composition.	Sums.	Natural History.	Geography.
10 to 11.	Reading.	Geography.	Composition.	Reading.	Spelling.	Natural History.
1 to 2.	Writing.	Drawing.	"	Writing.	Drawing.	"
2 to 3.	History.	Singing.	"	Spelling.	Singing.	"
3 to 4.	"	Gymnastics or Handicraft.	"	"	Gymnastics or Handicraft.	"

UPPER GRADE.

Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
8 to 9.	Bible History.	Catechism.	Sums.	Bible History.	Catechism.	Sums.
9 to 10.	Arithmetic.	Reading.	Essays.	Arithmetic.	Grammar.	Reading.
10 to 11.	Geography.	Physics.	"	Geography.	Natural History.	Orthography.
11 to 12.	"	"	Gymnastics or Handicraft.	"	"	Gymnastics or Handicraft.
1 to 2.	Writing.	Drawing.	"	Writing.	Drawing.	"
2 to 3.	Singing.	Natural History.	"	Orthography.	Singing.	"
3 to 4.	Repetitions.	History.	"	Repetitions.	History.	"

REMARKS ON RELIGIOUS INSTRUCTION.

Instruction in religion is the most important part of the entire education of the child. As all instructions must begin with a prayer or a hymn to give the entire act a religious consecration, an instruction in religion must take the first place, and be given in the first school hour.

This is the time that the child's mind is the clearest. Let the instruction be given in such a manner as not only to reach the understanding and intellect of the children, but imbue their hearts and minds with these truths. Then the true aim of education will be reached, and the children be made useful citizens to the State and true servants of God.

The following books must be used:—

Kunk's Practical Commentary on Bible History.

Bargel's Key to Alleker's Bible History.

Alleker's Bible History as a Text-book.

Holman's Handbook of Scripture History.

Key's Advanced Catechism for the Lower Classes in Primary Schools.

The Short Guide to the Instruction of from six to ten years' old pupils in the Roman Catholic Catechism and Observances.

INSTRUCTION IN WOMEN'S HANDWORK.

Instruction in needlework, being of the greatest consequence to the welfare of families and the bringing up of young girls, must meet with most special attention in all female schools.

To train the young girls to understand the importance of needlework at home, time must be devoted to teaching them order, cleanliness, diligence, economy, and the ordering of a house—in fact, all that will fit them for their future lives.

Knowledge and skill with her needle and hands for home work is of far more importance to girls than many subjects taught in school, and many mistresses have begged the two hours set apart for Repetitions may be devoted an extra time for work.

In the practice of work there must not only be skill in its execution but the pupils must thoroughly understand everything in reference to it; its utility, the proper material to be used for certain purposes, &c. Knowledge and skill must march hand-in-hand. Without a full understanding of the why and because of their work and its purpose, the pupils will not be able later to use other stuffs and more materials to advantage. Therefore all instruction in needlework will consist in—

1st.—A lecture by the teacher explaining all that concerns the work of the class.

2dly.—In exercises on this work—preparatory and explanatory.

3dly.—In regular practising of the scholars in each subject until perfect in it.

4thly.—In instructions in the necessary rules, stitches, stuffs, &c.

XXXVI.

DOCUMENT put in by Mr. W. T. CLEMENTS, Inspectors' Assistant.

SUGGESTED PROGRAMME OF KINDERGARTEN and MANUAL OCCUPATIONS for PUPILS in ORDINARY NATIONAL SCHOOLS.

INFANTS (Ages 3 to 4).—

- (1.) To distinguish colours of six differently coloured balls.
- (2.) To perform various games with balls.

(Ages 4 to 5).—

- (1.) Differences between ball (sphere), cube, and cylinder.
- (2.) Arrangements with, so as to make properties of each evident.

(Ages 5 to 6).—

- (1.) Stick laying.
- (2.) To be able to draw on slate, simple forms represented by laid sticks.

(Ages 6 to 7).—

- (1.) Tablet laying.
- (2.) To draw on slate any simple figure made by arranged tablets.

FIRST CLASS.—

- (1.) To build forms of life, knowledge, and beauty, with divided cubes.
- (2.) To be taught the nature of a drawing, so as to be able to build from figures drawn on blackboard or on paper.
- (3.) Piercing and embroidery.

SECOND CLASS.—

- (1.) Weaving or braiding.
- (2.) Cork or penwork.
- (3.) To be proficient in the use of ruler and pencil in drawing straight lines on paper, to represent weaving patterns.

THIRD CLASS.—

- (1.) Paper folding.
- (2.) Paper cutting with scissors.
- (3.) To be able to draw on paper, plans of folds and of figures formed by cutting.

FOURTH CLASS.—

- (1.) To be able to draw geometrical forms on paper with compasses, ruler, &c.
- (2.) To cut out forms with knife.
- (3.) Modelling in cardboard.

FIFTH CLASS (Stage I).—

- (1.) From a board to saw, and afterwards to plane, boards to given dimensions.
- (2.) To make a box of given size.
- (3.) To be expert in the use of rule, saw, plane, gauge, square, bread-awl, hammer, pin, and punch.

FIFTH CLASS (Stage II).—

- (1.) To join two pieces of wood at right angles to each other by mortise and tenon joint.
- (2.) To make a common four-legged stool.
- (3.) To make an ordinary salt-box.
- (4.) To be expert in the use of the following tools, in addition to those required for Fifth Class, First Stage.—Mallet, mortise-chisel, tenon saw, smoothing plane, brace and centre bits, bevel, compass, gimlet, and turn-screw.

SIXTH CLASS (First Year).—

- (1.) To make a knife-box (corners to be dovetailed, or grooved and tongued).
- (2.) To make a picture frame.
- (3.) To make a corner bracket.
- (4.) In addition to tools required for previous classes, to be skilful in the use of shooting block, mitre-box, rabbit plane, chisel, fret saw, and moulding plane.

SIXTH CLASS (Second Year).—

- (1.) To make a dovetailed-box (to be put together with glue).
- (2.) To make a small panelled door.
- (3.) To know and to be able to make the various joints used in carpentry.
- (4.) To be expert in the use of the principal tools used in joinery and in cabinet work.

XXXVII.

DOCUMENT put in by J. B. SKIFFINGTON, M.A., LL.B., District Inspector of National Schools.

PROGRESSIVE EXERCISES IN KINDERGARTEN and PRACTICAL INSTRUCTION.

LOWER DIVISION INFANTS AND FIRST CLASS	MIDDLE DIVISION II, III, IV CLASSES	SENIOR DIVISION V, VI, VII, VII ¹ CLASSES
Objects traced, as— Octo-gon, ball, cube, &c.	More complex objects, as— Chair, glass, &c.	Natural objects, or machines, as— Penny, clock, coach, &c.
A—Quizzes generally, as— Colour, shape, size, number, &c.	More detailed comparison, as— (1) Measurement by rule or tape (2) Proportion by superposition (3) Weighing by balance or spring (4) Mental counting, fractions, &c.	More complicated measurements, as, viz.— (1) Mental notices and notions of connected parts, or size, clock, machine, &c. (2) Proportion of size, water, cloth, &c., &c. (3) Specific qualities by weighing, &c., wood, metal, stone, &c., of various sorts. (4) Practical experiments, physical chemistry. (5) Measuring lines, angles, &c.—Verger. (6) Mental calculation, calipers, protractor.

PROGRESSIVE EXERCISES IN KINDERGARTEN AND PRACTICAL INSTRUCTION—continued.

LOWER DIVISION INFANTS AND FIRST CLASS	MIDDLE DIVISION II, III, IV, CLASSES	SENIOR DIVISION V, VI, VII, VIII, CLASSES
B —Motions and sounds, as— (1) Marching drill (2) Singing by ear	More vigorous movements, &c., as— (1) Marching, calisthenics. (2) Rhythmic chants, melody.	More complex and vigorous actions, &c., as— (1) Military drill, gymnastics, games. (2) Stamping, clapping, harmony.
C —Information by words, as— (1) Conversation. (2) Reading. (3) Elements of knowledge.	More advanced exercises as— (1) Descriptions oral and written. (2) Reading stories, poems, &c. (3) Lessons in arithmetic, geography, natural history, &c.	More difficult matter, as— (1) Conversation, correspondence, &c. (2) Reading advanced lessons in history, poetry, &c. (3) Lessons in arithmetic, geography, arithmetic, science, &c.
D —Representation of form, number, &c., as— (1) Drawing on checkered lines. (2) Writing. (3) Figures.	More advanced, as— (1) Drawing on checkered paper, and then on plain patterns, &c., also models. (2) Writing with pencil on paper, then with pen and ink. (3) Notation, arithmetic.	Still more difficult, as— (1) Drawing:— (a) Practical geometry. (b) Exact drawing. (c) Freehand. (d) Map drawing. (2) Girls drawing patterns for cutting out. (3) Penmanship and spelling copy etc. and transcription. (4) Arithmetic, algebra, mensuration geometry.
E —Construction and invention, as— (1) Paper cutting between. (2) Paper weaving. (3) Making cards, &c. (pupils). (4) Making caps, &c. (pupils).	More advanced work, as— (1) Modelling in clay ball, dough, &c. (2) Cutting some soft wood (as taraxac) (girls). (3) Cutting geometrical figures, &c., in cardboard. (4) Girls sewing, &c.	Work of strength or skill, as— (1) Cutting cardboard to form wheels, &c. (2) Cutting from wood, with knife or fine saw, the cases storage, &c. of the gate. (3) Handling tools, making tooth (theory) in wood. (4) Making scientific apparatus for use. (5) Gardening in rural schools. Girls— (1) Needlework, &c. (2) Cookery. (3) Housework.

XXXVIII.

DOCUMENT put in by Mr. RICHARD H. BEAMISH, one of the Governors of the Munster Dairy School

MEMORANDUM ON AGRICULTURAL EDUCATION IN SWEDEN.

Summary of the Agricultural Institutions and Schools of Sweden, with a Return on the Number of Free and Paying Students and Pupils.

By the term "student" is implied the man who studies with the view of becoming an agent or estate manager, in contradistinction to the "pupil" who intends to obtain the situation of bailiff or farm-foreman.

	STUDENTS		PUPILS		TOTAL
	Free.	Paying	Free.	Paying	
A. Agricultural Institutions — 2 Institutions (vide Return I.),	8	71	43	39	147
B. Rural Schools — 14 Schools (vide Return II.),	44	138	—	—	182
C. Agricultural Schools — 24 Schools (vide Return III.),	—	—	307	38	345
	52	209	355	58	674

Although care has been taken to classify the numbers in both the student and the pupil class, it has been difficult to ascertain the numbers in each section exactly.

From the above return it may be observed that the

total number of students and pupils educated in the three divisions (A, B, and C) amounts to 674, irrespective of the dairy pupils, who have not been included in this return at all. 80.3 per cent. of the total number have been educated free.

RETURN I.—A.

ULUNA.

APPENDIX A

AGRICULTURAL INSTITUTIONS.

There are two institutions in Sweden—Uluna and Alnarp.

Both classes of young men—students and pupils—are educated at each of these institutions. In addition, there is a dairy class at Alnarp.

The instruction afforded to the students will not be stated, as in all probability there would be but little advantage in such a return.

The work, both theoretical and practical, undertaken by the pupils will be fully stated, as these pupils would correspond to the young Irish farmer-pupil.

As both institutions are practically worked on the same system, it is proposed only to describe one.

Course.—Two years.

Pupils.—There are 24 pupils, classified into two, senior and junior, divisions.

The junior division consists of the first-year pupils, and the senior division of the second-year pupils. Each division contains 12 pupils.

All the senior division obtained situations at the termination of their course—11 as bailiffs, and 1 as a farm accountant.

Area of Farm—

	Acres.
Arable Land	745
Meadow Land	255
Grass Land	51
Forest	247
Total	1,298

There are four rotations of crops carried out on the farm, according to the kind of soil treated.

a.	b.	c.	d.
1. Fallow.	1. Potatoes.	1. Fallow.	1. Fallow.
2. Rye.	2. Barley.	2. Rye.	2. Rye.
3. Grass.	3. Grass.	3. Grass.	3. Grass.
4. Do.	4. Do.	4. Do.	4. Do.
5. Do.	5. Oats and Barley.	5. Do.	5. Do.
6. Oats and Barley.	6. Oats and Barley.	6. Do.	6. Oats and Barley.
7. Fallow.	7. Fallow.	7. Oats.	7. Roots and Soilage.
8. Wheat.	8. Wheat.	8. Oats and Barley.	8. Oats and Barley.
		9. Roots and Soilage crops.	
		10. Barley.	

Notes.—The oats and barley are grown together and form mixed crops when threshed.

Live Stock.—Horses, 37, foals, 5, oxen, 8; bullocks, 4; bulls, 3; young bulls, 2; cows, 145; heifers, 52; calves, under one year old, 40; sheep, 185; pigs, 35. Total, 508 animals.

Instruction.—The senior division of the pupils—

The theoretical instruction was divided into the following periods:—

From November 1 to April 26—Morning study, 5.30 a.m. to 6.30 a.m. Evening study, 6 p.m. to 8 p.m.

From April 27 to May 11—Morning study, 5.30 a.m. to 6.30 a.m.

From September 16 to October 10—Morning study, 5.30 a.m. to 6.30 a.m.

From October 11 to the examination day, on October 28, the lectures averaged five hours per diem. The pupils were excused all manual work during this

period, and time was therefore afforded for individual study.

The junior division of the pupils:—

Theoretical instruction for the junior division took place on each evening between 6 p.m. and 8 p.m.

In addition to the theoretical schedule of work described below, the pupils have been steadily employed in carrying out the ordinary manual work of the farm, under the supervision of competent foremen, and have been placed—

In the positions of bailiffs in charge, for 30 days;

In the cow-houses, for 21 days;

In the stables, for 14 days;

In the carpenter's shop and smithy, for 12 days;

On general cleaning, for 30 days;

In the granary, weighing out artificial food, manures, for 12 days.

THEORETICAL SUBJECTS TAUGHT TO THE JUNIOR AND SENIOR DIVISIONS, AND THE NUMBER OF HOURS DEVOTED TO EACH.

Subject.	Division instructed.	Months.												Total.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
The Swedish Language.	Junior	2	2	2										
Writing.	Junior	2	2	2										
Arithmetic.	Junior	2	2	2										
Do.	Senior	2	2	2										
Supplemental Drawing.	Junior	2	2	2										
Do.	Senior	2	2	2										
Accounting.	Junior	2	2	2										
Natural History.	Junior	2	2	2										
Do.	Senior	2	2	2										
The Elements of Agriculture.	Junior	10	10	10	10	10	10	10	10	10	10	10	10	120
Management of Live Stock.	Junior	10	10	10	10	10	10	10	10	10	10	10	10	120
Do.	Senior	10	10	10	10	10	10	10	10	10	10	10	10	120
Science and Practice of Dairying.	Junior	10	10	10	10	10	10	10	10	10	10	10	10	120
Forestry.	Junior	10	10	10	10	10	10	10	10	10	10	10	10	120
Do.	Senior	10	10	10	10	10	10	10	10	10	10	10	10	120
Domestic Science.	Junior	10	10	10	10	10	10	10	10	10	10	10	10	120
Do.	Senior	10	10	10	10	10	10	10	10	10	10	10	10	120
Simple Agricultural Economy.	Junior	10	10	10	10	10	10	10	10	10	10	10	10	120
Accounting.	Junior	10	10	10	10	10	10	10	10	10	10	10	10	120

RETURN II.—B.

RURAL SCHOOLS.

The number of Rural Schools are fourteen in number, distributed throughout the country.

Course.—Six months.

Pupils.—The pupils were subjected to an entrance examination.

The majority had already passed through the Land Schools and the High Schools. They were also accustomed to agricultural work, either by being in employment on estates or on their fathers' farms.

Situations were obtained for them at the termination of the course.

Instruction.—The instruction afforded will be found under two headings—

a. On subjects determined by the State.

b. On subjects determined by the local committee.

Instructors.—There were a total of 63 instructors for the fourteen schools. This number divided into the number of pupils, 181, gives nearly one instructor to three pupils.

INSTRUCTION AFFORDED AT THE RURAL SCHOOLS.

A.—On subjects determined by the State.

(The names of the Schools are substituted by numbers.)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Hours													
Physiology,	60	31	38	27	32	36	22	38	65	52	22	26	66	
Chemistry,		43	42	32	33	41	44			44	46	46		74
Botany,		37	-	21 ^a	60	32 ^a	22		31	30 ^a	22	21	41	
Zoology,	40	32	-	35	33	17	23	37		-	21	35		
Geology,	30	15			124	36	11	23	23	26	19	22	39	41 ^b
The Science of Agriculture,	30	99 ^b	128 ^b	37	109	130	119	79	95	130 ^b	123	109	300	112
The Management of Live Stock,	30	62	60 ^a	37	77	80	95	61	70	116 ^b	118	62		38
Veterinary Science,	30	33	40	14	24	36	22	33	21		46	42	154	41
The Science and Practice of Dairying,	30	7	17	9	5	35	29	23	5	-	23	36		11
Architecture and Linear Drawing,	170	56 ^a	58	126	163	55	119	146	72	63	118	122	68	51
Geometry, Surveying, Masonry,	20	40 ^a	115 ^a	38	57	53	55	124	117	167 ^b	162 ^b	162 ^b	327	61
Forestry,	30	45	-	8	23	34	19	13	17 ^a	-	23	33	19	14
Book-binding,	40	50	35	32	31	49	17	48	21	47	110	66	66	47
Horticulture,	-	2	-	-	-	-	-	-	-	-	22	13	-	-
Agricultural Economy,	30	-	-	-	29	39	40	-	-	-	-	-	-	-
Total,	413	381	330	773	715	791	613	623	426	614 ^a	715	570	636	478

^a Including Botany.

^b Including Zoology.

^c Including Arithmetic.

^d Including testing woods.

^e Including a period of 4 days which were spent in the field.

^f Including Forestry.

^g Including Masonry.

^h Including Measurements.

INSTRUCTION AFFORDED AT THE RURAL SCHOOLS.

B.—On subjects determined by the Local Committee.

(The names of the Schools are substituted by numbers.)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Hours													
The Swedish Language,	-	-	36	42	-	-	15	27	35	76	-	-	48	119
Arithmetic,	-	-	-	45	-	-	23	-	58	-	-	-	-	119
State and County Address Systems,	-	-	54	36	33	22	44	25	52	43	-	55	22	15
History and Geography,	-	-	44	21	-	-	-	37	36	-	-	-	32	-
Orthography,	-	-	-	9	-	-	-	-	9	-	-	44	-	-
Swedish,	-	-	-	74	35	34 ^a	44	44	30	59	-	30	23	-
Gymnastics,	-	-	120	60	20	-	-	-	59	120	-	100	-	-
Mathematical Problems,	-	-	-	18	15	-	44	39	30	-	-	-	-	-
Stamps,	-	12	-	15	20	13	-	-	-	-	-	-	-	-
Carpentry,	-	-	-	-	-	45	-	126	-	-	-	-	-	-
Hygiene,	-	-	-	-	-	-	-	-	30	-	-	-	-	-
Agriculture,	-	5	-	-	-	-	-	-	-	-	-	-	-	-
Amusement Training,	-	-	-	7	-	-	-	-	-	-	-	-	-	-
Total,	-	42	228	359	187	125	309	309	237	272	-	340	397	231
Add subjects in Section A,	173	381	330	723	715	791	613	623	426	614 ^a	715	570	636	478
Total for Sections A and B,	413	387	715	1082	902	874	922	932	723	886 ^a	715	970	773	711

^a Including Sizing.

RETURN III.—C.

AGRICULTURAL SCHOOLS.

Number.—The number of the Agricultural Schools is twenty-four. They are, in reality, the picked farms of the country, distributed throughout Sweden.

Pupils.—On them are educated youths and men who intend to obtain the positions of farm-bailiffs, book-keepers, &c. Only 11 per cent. of the total number, 345, of the pupils educated pay fees. On the other hand, it will be seen that the pupils are worked hard, and, to a great extent, occupy the places of ordinary farm-labourers on these estates, with those distinctions that each pupil works carefully, in order to prepare himself for his future career. On the whole, the work is, therefore, well carried out, under suitable and strict foremen attached to the farms. The cost of the theoretical teaching is partly maintained by the State and the Agricultural Societies of the various districts. The pupils give their services free in exchange for instruction and keep. The advantage which thus accrues is evident:—The pupils are under greater discipline than would be the case if they paid small fees, and were, therefore, in a more independent position.

Teachers.—A total of ninety teachers to 345 pupils, or one teacher to 3.83 pupils.

Area and Pupils.—The average size of the farms, calculated on seventeen out of twenty-four, and including only arable and grazing land, is 547.6 acres, or 34.8 acres per pupil. The total average size of the farms, including the forests, is 1,435.3 acres, or 97.5 acres per pupil, calculated on eighteen farms. The average number of pupils attending each of the twenty-four farms is 14.4, and varies between six and twenty-four.

Course.—Two years.

Instruction.—The theoretical instruction, expressed in hours, and the practical instruction, expressed in days of twelve hours, will be quoted further down for each farm.

A description of one estate will be given in order to illustrate the organisation of a Swedish Agricultural School.

A Swedish Agricultural School (1885.)

The Staff.—Consists of the principal, one ordinary, and four extra teachers.

Course.—Two years.

Pupils.—Consist of twenty-four young men—classified into two, the junior and senior, divisions. The average age of each pupil was twenty-three years. There were thirteen pupils in the senior, and eleven pupils in the junior division.

Of the thirteen senior pupils who had passed their final examination, twelve obtained situations—nine as bailiffs, and three as farm book-keepers.

There were forty-five applications for the thirteen vacancies which thus arose.

The Work.—Theoretical instruction was carried out throughout the year, with the exception of the period between July 8th and September 4th.

Area of farms.—The area of the arable land was 827 acres.

Crops	Acres.	Yield per acre
Wheat,	12.9	37.16 cwt.
Rye,	79.9	32.35 "
Barley,	21.9	12.16 "
Mixed Cereals (barley and oats),	88.9	17.50 "
Oats,	166.2	12.22 "
Potatoes and Oats,	31.6	12.22 "
Vegetables and Oats (for cows),	12.2	11.62 "
Roots,	49.4	—
Oats and Vegetables,	34.5	4.00 cwt. hay, 114.70 cwt. selling.
Grass (hay),	301.2	1.24 tons.
Fallow,	32.6	—
827 acres		

Stock.—51 horses, 1 foal, 8 bulls, 126 cows, 127 heifers and calves, 141 sheep, 133 pigs, or a total of 587 animals.

PRACTICAL WORK CARRIED OUT BY THE PUPILS

Number of School.	Division.	1	2	3	4	5	6	7	8	9	10	11	12	13	14
		English	Geography	Science	Recreation of Land	Open Design	Concord Tables	Penmanship	Drill	Elementary, &c.	Modeling the Land	Compass Making	Quarrying Masonry	Plant Raising	Machinist Working
1.	Junior,	4	79	9	-	2	2	126	-	37	-	2	172	4	14
	Senior,	2	34	-	-	234	3	46	-	61	-	-	34	2	31
2.	Junior,	-	64	-	-	34	2	362	-	171	-	30	31	3	-
	Senior,	2	2	-	-	234	61	39	2	461	-	3	12	3	34
3.	Junior,	10	109	-	1	4	9	36	-	23	11	9	98	3	4
	Senior,	2	16	-	1	2	4	7	7	30	2	12	4	3	9
4.	Junior,	30	48	10	2	4	4	46	-	36	-	14	-	34	-
	Senior,	9	22	19	26	46	51	115	-	65	-	12	-	34	-
5.	Junior,	2415	3660	-	13	905	-	4433	623	443	235	565	163	645	12
	Senior,	-	43	-	183	763	65	4517	875	164	103	743	1763	1	106
6.	Junior,	61	41	-	-	5	-	345	-	345	-	43	164	2	-
	Senior,	2	4	-	-	20	11	59	2	111	-	12	31	2	41
7.	Junior,	10	80	-	-	-	366	-	-	-	93	-	-	-	-
	Senior,	30	35	-	-	-	344	-	-	-	2	-	-	-	-
8.	Junior,	4	20	-	30	2	1	306	-	211	-	4	64	-	11
	Senior,	-	-	-	30	2	4	35	-	35	-	34	31	4	31
9.	Junior,	21	305	22	-	-	-	54	9	44	61	23	1	-	-
	Senior,	-	-	174	41	141	2	46	2	41	31	25	164	7	1
10.	Junior,	-	32	-	-	-	-	39	-	39	-	-	141	-	-
	Senior,	-	5	-	-	-	-	2	-	4	-	-	31	-	-
11.	Junior,	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Senior,	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.	Junior,	176	624	73	-	144	-	184	-	213	64	98	278	-	-
	Senior,	67	153	129	73	203	46	719	12	16	2	22	103	10	13
13.	Junior,	31	46	-	10	17	2	5	-	17	-	2	47	4	1
	Senior,	4	6	-	39	12	3	311	14	221	-	-	14	34	34
14.	Junior,	31	111	-	-	42	41	575	5	255	-	9	32	25	-
	Senior,	4	76	-	-	42	41	335	46	131	-	413	115	31	-
15.	Junior,	67	49	-	-	2	-	20	-	20	-	93	29	-	30
	Senior,	2	4	-	-	2	3	17	16	16	-	2	12	2	13
16.	Junior,	30	35	-	-	106	-	11	-	24	4	4	14	-	-
	Senior,	-	-	-	-	4	21	40	9	20	41	3	12	3	1
17.	Junior,	361	247	-	64	3	-	304	-	251	-	1	176	98	31
	Senior,	-	14	-	11	44	-	15	42	94	62	13	127	34	15
18.	Junior,	34	60	31	-	9	-	306	-	20	-	1	113	-	1
	Senior,	41	32	31	-	12	1	19	1	101	-	25	41	34	25
19.	Junior,	5	42	-	30	19	31	17	1	36	1	12	13	-	1
	Senior,	-	-	-	20	16	41	19	2	164	11	6	13	2	2
20.	Junior,	126	374	-	-	71	-	975	-	105	17	2	207	5	6
	Senior,	11	2	-	12	131	31	111	2	131	31	41	131	41	25
21.	Junior,	494	693	-	24	125	29	19	-	6	64	13	54	-	-
	Senior,	98	1	-	24	233	23	48	69	307	321	84	137	13	39
22.	Junior,	487	683	-	19	-	-	24	-	37	-	-	62	-	-
	Senior,	109	263	-	47	-	-	12	-	34	-	-	96	67	67
23.	Junior,	441	561	-	2	31	-	79	-	46	-	69	134	-	-
	Senior,	-	-	-	2	31	-	14	-	361	1	31	131	11	-
24.	Junior,	459	329	-	-	4	1	11	-	41	-	261	6	11	8
	Senior,	-	17	-	-	6	1	11	-	51	-	27	331	39	31

Particulars not stated as.

111.

DURING THE YEAR—EXPRESSED IN DAYS.

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.	41.	42.	43.	44.	45.	46.	47.	48.	49.	50.	51.	52.	53.	54.	55.	56.	57.	58.	59.	60.	61.	62.	63.	64.	65.	66.	67.	68.	69.	70.	71.	72.	73.	74.	75.	76.	77.	78.	79.	80.	81.	82.	83.	84.	85.	86.	87.	88.	89.	90.	91.	92.	93.	94.	95.	96.	97.	98.	99.	100.	101.	102.	103.	104.	105.	106.	107.	108.	109.	110.	111.	112.	113.	114.	115.	116.	117.	118.	119.	120.	121.	122.	123.	124.	125.	126.	127.	128.	129.	130.	131.	132.	133.	134.	135.	136.	137.	138.	139.	140.	141.	142.	143.	144.	145.	146.	147.	148.	149.	150.	151.	152.	153.	154.	155.	156.	157.	158.	159.	160.	161.	162.	163.	164.	165.	166.	167.	168.	169.	170.	171.	172.	173.	174.	175.	176.	177.	178.	179.	180.	181.	182.	183.	184.	185.	186.	187.	188.	189.	190.	191.	192.	193.	194.	195.	196.	197.	198.	199.	200.	201.	202.	203.	204.	205.	206.	207.	208.	209.	210.	211.	212.	213.	214.	215.	216.	217.	218.	219.	220.	221.	222.	223.	224.	225.	226.	227.	228.	229.	230.	231.	232.	233.	234.	235.	236.	237.	238.	239.	240.	241.	242.	243.	244.	245.	246.	247.	248.	249.	250.	251.	252.	253.	254.	255.	256.	257.	258.	259.	260.	261.	262.	263.	264.	265.	266.	267.	268.	269.	270.	271.	272.	273.	274.	275.	276.	277.	278.	279.	280.	281.	282.	283.	284.	285.	286.	287.	288.	289.	290.	291.	292.	293.	294.	295.	296.	297.	298.	299.	300.	301.	302.	303.	304.	305.	306.	307.	308.	309.	310.	311.	312.	313.	314.	315.	316.	317.	318.	319.	320.	321.	322.	323.	324.	325.	326.	327.	328.	329.	330.	331.	332.	333.	334.	335.	336.	337.	338.	339.	340.	341.	342.	343.	344.	345.	346.	347.	348.	349.	350.	351.	352.	353.	354.	355.	356.	357.	358.	359.	360.	361.	362.	363.	364.	365.	366.	367.	368.	369.	370.	371.	372.	373.	374.	375.	376.	377.	378.	379.	380.	381.	382.	383.	384.	385.	386.	387.	388.	389.	390.	391.	392.	393.	394.	395.	396.	397.	398.	399.	400.	401.	402.	403.	404.	405.	406.	407.	408.	409.	410.	411.	412.	413.	414.	415.	416.	417.	418.	419.	420.	421.	422.	423.	424.	425.	426.	427.	428.	429.	430.	431.	432.	433.	434.	435.	436.	437.	438.	439.	440.	441.	442.	443.	444.	445.	446.	447.	448.	449.	450.	451.	452.	453.	454.	455.	456.	457.	458.	459.	460.	461.	462.	463.	464.	465.	466.	467.	468.	469.	470.	471.	472.	473.	474.	475.	476.	477.	478.	479.	480.	481.	482.	483.	484.	485.	486.	487.	488.	489.	490.	491.	492.	493.	494.	495.	496.	497.	498.	499.	500.	501.	502.	503.	504.	505.	506.	507.	508.	509.	510.	511.	512.	513.	514.	515.	516.	517.	518.	519.	520.	521.	522.	523.	524.	525.	526.	527.	528.	529.	530.	531.	532.	533.	534.	535.	536.	537.	538.	539.	540.	541.	542.	543.	544.	545.	546.	547.	548.	549.	550.	551.	552.	553.	554.	555.	556.	557.	558.	559.	560.	561.	562.	563.	564.	565.	566.	567.	568.	569.	570.	571.	572.	573.	574.	575.	576.	577.	578.	579.	580.	581.	582.	583.	584.	585.	586.	587.	588.	589.	590.	591.	592.	593.	594.	595.	596.	597.	598.	599.	600.	601.	602.	603.	604.	605.	606.	607.	608.	609.	610.	611.	612.	613.	614.	615.	616.	617.	618.	619.	620.	621.	622.	623.	624.	625.	626.	627.	628.	629.	630.	631.	632.	633.	634.	635.	636.	637.	638.	639.	640.	641.	642.	643.	644.	645.	646.	647.	648.	649.	650.	651.	652.	653.	654.	655.	656.	657.	658.	659.	660.	661.	662.	663.	664.	665.	666.	667.	668.	669.	670.	671.	672.	673.	674.	675.	676.	677.	678.	679.	680.	681.	682.	683.	684.	685.	686.	687.	688.	689.	690.	691.	692.	693.	694.	695.	696.	697.	698.	699.	700.	701.	702.	703.	704.	705.	706.	707.	708.	709.	710.	711.	712.	713.	714.	715.	716.	717.	718.	719.	720.	721.	722.	723.	724.	725.	726.	727.	728.	729.	730.	731.	732.	733.	734.	735.	736.	737.	738.	739.	740.	741.	742.	743.	744.	745.	746.	747.	748.	749.	750.	751.	752.	753.	754.	755.	756.	757.	758.	759.	760.	761.	762.	763.	764.	765.	766.	767.	768.	769.	770.	771.	772.	773.	774.	775.	776.	777.	778.	779.	780.	781.	782.	783.	784.	785.	786.	787.	788.	789.	790.	791.	792.	793.	794.	795.	796.	797.	798.	799.	800.	801.	802.	803.	804.	805.	806.	807.	808.	809.	810.	811.	812.	813.	814.	815.	816.	817.	818.	819.	820.	821.	822.	823.	824.	825.	826.	827.	828.	829.	830.	831.	832.	833.	834.	835.	836.	837.	838.	839.	840.	841.	842.	843.	844.	845.	846.	847.	848.	849.	850.	851.	852.	853.	854.	855.	856.	857.	858.	859.	860.	861.	862.	863.	864.	865.	866.	867.	868.	869.	870.	871.	872.	873.	874.	875.	876.	877.	878.	879.	880.	881.	882.	883.	884.	885.	886.	887.	888.	889.	890.	891.	892.	893.	894.	895.	896.	897.	898.	899.	900.	901.	902.	903.	904.	905.	906.	907.	908.	909.	910.	911.	912.	913.	914.	915.	916.	917.	918.	919.	920.	921.	922.	923.	924.	925.	926.	927.	928.	929.	930.	931.	932.	933.	934.	935.	936.	937.	938.	939.	940.	941.	942.	943.	944.	945.	946.	947.	948.	949.	950.	951.	952.	953.	954.	955.	956.	957.	958.	959.	960.	961.	962.	963.	964.	965.	966.	967.	968.	969.	970.	971.	972.	973.	974.	975.	976.	977.	978.	979.	980.	981.	982.	983.	984.	985.	986.	987.	988.	989.	990.	991.	992.	993.	994.	995.	996.	997.	998.	999.	1000.
Moving and Outing by Hand	Moving and Outing by Machine	May Harvest	June Harvest	Seedling May, June, Sucker	Thinning Beets	Harvesting Beets	Seedling Beets	Thinning - Care of the Beets	Thinning - Filling the Thinning Beets	Thinning - Beets	Work in the Greenhouse	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -	Green Work	Outing - May and June	Seedling Planting	Seedling -																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														

1 The Storehouse includes under the term of the above lists, and care of all assigned tools and materials which are weighed out either once a week or once a day.

APPENDIX A.
LXXVIII.

THE THEORETICAL SUBJECTS taught to the PUPILS, and expressed in hours.

(The names of the various Schools have been replaced by numbers.)

No of School.	Domain.	English Language.	Writing.	Arithmetic.	Classification of Solids, &c.	Linear Drawing.	Shewing Dimensions, Plans.	Science and Practice of Agriculture.	Mineral History.	Management of Live Stock.	Season and Treatment of Horses.	Farriery.	Harvesting.	Elementary Agricultural Economy.	Accounting.	Total.	Capacity demonstrated.	Intellectual Study.	Supervision.
1	Junior, Senior.	40 40	40 40	120 120	30 30	- -	- -	- -	60 60	- -	- -	- -	- -	- -	- -	240 240	- -	- -	- -
2	Junior, Senior.	22 40	40 40	120 120	- -	- -	- -	120 120	180 180	140 140	20 20	20 20	- -	- -	- -	340 340	- -	- -	- -
3	Junior, Senior.	40 40	40 40	120 120	- -	- -	- -	120 120	110 110	120 120	20 20	- -	- -	- -	- -	300 300	- -	- -	- -
4	Junior, Senior.	20 20	40 40	120 120	40 40	10 10	10 10	20 20	40 40	120 120	20 20	20 20	- -	- -	- -	340 340	- -	- -	- -
5	Junior, Senior.	20 20	40 40	110 110	- -	- -	- -	110 110	180 180	70 70	20 20	20 20	20 20	20 20	20 20	400 400	- -	- -	- -
6	Junior, Senior.	20 20	- -	40 40	- -	- -	- -	20 20	20 20	- -	- -	- -	- -	- -	- -	140 140	- -	- -	- -
7	Junior, Senior.	20 20	40 40	20 20	120 120	20 20	10 10	60 60	100 100	20 20	20 20	20 20	20 20	20 20	20 20	340 340	- -	- -	100
8	Junior, Senior.	- -	40 40	120 120	- -	120 120	- -	60 60	- -	- -	- -	- -	- -	- -	- -	260 260	- -	- -	- -
9	Junior, Senior.	20 40	40 40	120 120	20 20	20 20	20 20	120 120	120 120	20 20	20 20	20 20	- -	- -	- -	340 340	- -	- -	- -
10	Junior, Senior.	20 20	40 40	120 120	- -	- -	- -	20 20	40 40	120 120	20 20	20 20	- -	- -	- -	300 300	- -	- -	- -
11	Junior, Senior.	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
12	Junior, Senior.	20 20	40 40	120 120	20 20	20 20	20 20	120 120	120 120	20 20	20 20	20 20	- -	- -	- -	340 340	- -	- -	100
13	Junior, Senior.	20 20	40 40	120 120	20 20	20 20	20 20	120 120	120 120	20 20	20 20	20 20	- -	- -	- -	340 340	- -	- -	- -
14	Junior, Senior.	20 20	40 40	120 120	20 20	20 20	20 20	120 120	120 120	20 20	20 20	20 20	- -	- -	- -	340 340	- -	- -	- -
15	Junior, Senior.	20 20	40 40	120 120	20 20	20 20	20 20	120 120	120 120	20 20	20 20	20 20	- -	- -	- -	340 340	- -	- -	- -
16	Junior, Senior.	20 20	40 40	120 120	20 20	20 20	20 20	120 120	120 120	20 20	20 20	20 20	- -	- -	- -	340 340	- -	- -	- -
17	Junior, Senior.	20 20	40 40	120 120	20 20	20 20	20 20	120 120	120 120	20 20	20 20	20 20	- -	- -	- -	340 340	- -	- -	- -
18	Junior, Senior.	20 20	40 40	120 120	20 20	20 20	20 20	120 120	120 120	20 20	20 20	20 20	- -	- -	- -	340 340	- -	- -	- -
19	Junior, Senior.	20 20	40 40	120 120	20 20	20 20	20 20	120 120	120 120	20 20	20 20	20 20	- -	- -	- -	340 340	- -	- -	- -
20	Junior, Senior.	20 20	40 40	120 120	20 20	20 20	20 20	120 120	120 120	20 20	20 20	20 20	- -	- -	- -	340 340	- -	- -	- -
21	Junior, Senior.	20 20	40 40	120 120	20 20	20 20	20 20	120 120	120 120	20 20	20 20	20 20	- -	- -	- -	340 340	- -	- -	- -
22	Junior, Senior.	20 20	40 40	120 120	20 20	20 20	20 20	120 120	120 120	20 20	20 20	20 20	- -	- -	- -	340 340	- -	- -	- -
23	Junior, Senior.	20 20	40 40	120 120	20 20	20 20	20 20	120 120	120 120	20 20	20 20	20 20	- -	- -	- -	340 340	- -	- -	- -
24	Junior, Senior.	20 20	40 40	120 120	20 20	20 20	20 20	120 120	120 120	20 20	20 20	20 20	- -	- -	- -	340 340	- -	- -	- -

a. Voluntary 10 hours in evening. b. Voluntary 10 hours in morning. c. Including 10 hours in evening. d. Including 10 hours in morning. e. Including 10 hours in evening. f. Including 10 hours in morning. g. Including 10 hours in evening. h. Including 10 hours in morning. i. Including 10 hours in evening. j. Including 10 hours in morning. k. Including 10 hours in evening. l. Including 10 hours in morning. m. Including 10 hours in evening. n. Including 10 hours in morning. o. Including 10 hours in evening. p. Including 10 hours in morning. q. Including 10 hours in evening. r. Including 10 hours in morning. s. Including 10 hours in evening. t. Including 10 hours in morning. u. Including 10 hours in evening. v. Including 10 hours in morning. w. Including 10 hours in evening. x. Including 10 hours in morning. y. Including 10 hours in evening. z. Including 10 hours in morning.

XXXIX.

APPENDIX A.

XXXIX.

DOCUMENT put in by Rev. Brother GOGARTY, Instructor in Woodwork, Christian Brothers' Schools, Lismore.

MANUAL INSTRUCTION IN WOOD IN CHRISTIAN BROTHERS' SCHOOLS, LISMORE.

Some Extracts from Courses.

"The course of instruction covers three years, and corresponds with the 5th, 6th, and 7th Drawing Standards, South Kensington. It comprises a series of 60 exercises, the more difficult of which constitute what are known as the Lessons. It is a carefully graduated one, the Lessons, as a rule, being arranged in the order of their difficulty. Each involves a recapitulation of much of the previous work, together with the introduction of something novel and interesting. (See Column, 'New Ex.')

"The models are little more than applications of the lessons already learned, no new exercises being introduced but such as are exceedingly simple, and which, consequently, need no preliminary practice."

"A great variety of alternative models have been provided, which may be allotted according to the aptitude and progress of the pupil."

"It may be asked why we have not adopted the Swedish Sloyd, instead of striking out the present course of Woodwork. In the first place, many of the tools employed in Swedish Sloyd seem decidedly dangerous, particularly for those who may be lively and thoughtless. As examples of such tools may be mentioned the axe, adze, draw-knife, and Sloyd knife.

Again, the method followed in Sloyd of requiring a boy to construct a model, involving perhaps a very difficult exercise in which he has got no previous practice, seems somewhat unreasonable. Is it not much more natural to teach him the exercise first, and get him afterwards to make the model as an application of what he has learned? But the strongest objection to Swedish Sloyd would seem to be that the models do not, as a rule, afford opportunities for good drawing lessons, yet this is, undoubtedly, an essential feature of a suitable course, and in what chiefly recommends it as an instrument of education."

"In conclusion, it may be stated, that as some of the many courses already existing seemed fully to meet all the requirements of the case—some not being sufficiently well graded, and others rather verging on the technical—the following, which is a composite one, has been arranged with that object. It is hoped that on examination it may be considered as once definite, elastic, and interesting, and also as calculated, in addition to its educative action, to impart into the schoolroom's rather monotonous round of literary work, an energy and a cheerfulness which must tell most beneficially."

Course.

NOTE.—The numbers 1, 2, 3, &c., in last column of "Course," refer to Exercises given on page 12.

Also the contractions, Bar., Peas., C.S.Y., Judd, and H., of S., mean respectively the works of Messrs. Barter, Pearson, C. S. Young, Judd, and Handbook of Sloyd.

FIRST YEAR—STANDARD V.

Number of Lesson or Model.	Name of Lesson or Model.	New Ex.
1st Lesson.	Sawing—How to hold and use the saw.	1
(a.)	Sawing to a line along the grain.	2
	Across the grain; and	3
	Obliquely.	
(b.)	Use of 2-foot rule—Its divisions into 8ths, 16ths, &c.	
(c.)	Sawing strips of given dimensions, from drawing with dimensions marked.	
2nd Lesson.	How to hold and use the plane.	
(a.)	To take the plane asunder and put it together again.	4
(b.)	To edge the plane iron.—Measuring of grinding angle, and bevel angle.	
(c.)	To plane up small surfaces of, say, 3 inches in width, and a foot or more in length, and test by means of the eye, straight edge, edge of try square, and winding strips.	5
(d.)	The use of try square—To plane up two surfaces at right angles to each other.	6
	Measuring of face mark and edge mark.	7
(e.)	Practice in gauging.	
(f.)	To "true up" a piece of wood on all four sides, and plane down strips to given thickness.	8
(g.)	To plane to a prismatic form—octagonal or hexagonal.	9
3rd Lesson.	Chiselling—How to hold and use the chisel.	10
(a.)	How to sharpen a chisel.	11, 12
(b.)	Horizontal paring, and use of tenon saw.	13
(c.)	Vertical paring.	14, 15,
Model I.	To make a cylindrical rule (Peas., IV.).	16, 17
4th Lesson.	Housing (C.S.Y. 40).	18
Model II.	A small bracket—Housing (Bar. 178).	19, 20, 21,
		22, 23, 24
5th Lesson.	Tonguing and grooving (C.S.Y. 43).	25
Model III.	A small box—Tonguing, &c., 6 inches by 4 inches by 3½ inches (Bar., 238), but modified, box, ½ inch. See sketch.	26, 27,
		28, 29

FIRST YEAR—continued.—ALTERNATIVE MODELS.

APPENDIX A.
XXIX.

Straight edge (Pear. XII.)
 Knife board (Pear. XII.)
 Rack for button books—Parquetry (Bar. 185).
 Tooth break rack—Housing (Bar. 165).
 "T" square (Pear. XI.)
 Soap box—Housing (Bar. 173).
 Envelope case—Housing (Bar. 181).
 Box—Grooved and tongued, 9½ inches by 6½ inches by 2½ inches (C.S. Y. 44).
 Elliptical mat—Plain joining (Bar. 195).
 Letter rack (a), 12½ inches by 3 inches (Bar. 203).
 Boot jack, 1 foot by 4 inches (Pear. XIV.)
 Letter rack (b), 16 inches by 4 inches (Bar. 204).
 School pen tray—Housing (Bar. 249).
 Flower pot stand, 14 inches by 4½ inches (Pear. XXXI.)
 Bench hook, 9 inches by 3 inches (Pear. XIV.)
 Plumb-line board, 15 inches by 2½ inches by ½ inch (Pear. XIII.)
 Boys' marble board, 1 foot by 2½ inches (Pear. XIV.)

SECOND YEAR.—STANDARD VI.

Number of Lessons or Model.	Name of Lesson or Model.	How Ex.
6th Lesson, .	Halving—Simple and half-lap (Jud. 13 and 17),	30
Model IV., .	Model frame—Half-lap (C.S. Y. 52),	31
7th Lesson, .	Half-lap dovetail (Jud. 18),	32
Model V., .	Towel roller, 24 inches by 8½ inches (Bar. 238),	33, 34
8th Lesson, .	Open mortise and tenon (C.S. Y. 55),	35
9th Lesson, .	Angle brace (Jud. 29),	36
Model VI., .	A lamp or vase stand—Parquetry (Bar. 220),	37, 38, 39
10th Lesson, .	Single mortise and tenon (Jud. 31),	40
Model VII., .	A mirror frame, 11½ inches by 9½ inches (Bar. 258),	41, 42, 43

ALTERNATIVE MODELS.

Nail or school pen tray—Half-lap (Pear. simplified).
 Newspaper rack—Half-lap and dovetail halving, 12 inches by 6 inches (Bar. 242).
 Bracket—Housing and stop sawing, 6½ inches by 5½ inches (Bar. 223).
 Drawing board—Boring and dowelling (C.S. Y. 83, larger).
 Picture frame—Open mortise and tenon (Bar. 272).
 Inlaid handled tray, 11½ inches by 6½ inches (Bar. 266).
 Inkstand—Chamfering and mortising (Pear. XII.)
 Triangular framing—Carrying shelves (Bar. 265 mod.)
 Try square—Brill joint (Pear. XI.)
 Flower pot stand—Half lap (Pear. XXVIII).
 Solids, viz. :—Cube, octagonal prism, cylindrical and square pyre (C.S. Y. 82).
 Windlass—Simple mortise and open mortise, 10 inches by 8½ inches (Pear. XXV.)
 Small wall bracket—Stop dovetail, 1 foot by 5 inches (C.S. Y. 78).
 Compound lever—Simple mortise and tenon, 14½ inches by 12½ inches (Pear. XXIV.)
 Levelling rule, simple mortise, 1 foot by 10½ inches (Pear. XL.)

THIRD YEAR.—STANDARD VII.

Number of Lessons or Model.	Name of Lesson or Model.	How Ex.
11th Lesson, .	(a) Gouging (Pear. —modified),	44
	(b) Stop-chamfering (Pear. VII.),	45
Model VIII., .	Inkstand (Bar. 301),	46
12th Lesson, .	Haunched mortise and tenon (Jud. 33),	47
Model IX., .	Model of gate, 8 inches by 5 inches by 1½ inches (C.S. Y. 67),	48
13th Lesson, .	Simple dovetailing (C.S. Y. 70),	49
Model X., .	Small box—Gov. lock and hinge (Bar. 317),	50, 51, 52
14th Lesson, .	Mitreing (Bar. 275),	53
Model XI., .	Standing picture frame (Bar. 274),	54
15th Lesson, .	Lap dovetailing (C.S. Y. 68),	55
Model XII., .	Parquetry tray (Bar. 322, modifying lap substituted),	56

THIRD YEAR—continued.—ALTERNATIVE MODELS.

APPENDIX A.
XXIV.

- A Trained bracket, 8 inches by 1 foot (Pears. XXX., simple dovetailing).
 Model of single panel door—hatched (Pears. XXXIII).
 Parquetry mat, $8\frac{1}{2}$ inches by $8\frac{1}{2}$ inches (Bar. 282).
 Pen tray—Gauging (Pears. XXVII).
 Inkstand—Gauging and stop cham. (C.S.Y. 74).
 Book rack, lap dovetail (C.S.Y. 89).
 Pen rest—Gauging, 8 inches by $2\frac{1}{2}$ inches (C.S.Y. 59).
 Model of gate, hatched, &c., cham. 1 foot by $2\frac{1}{2}$ inches by 11 inches (Pears.)
 Footstool—hatched, &c. (Bar. 305).
 Hanging box (salt box), common dovetail (Bar. 321).
 Hanging bracket—stop cham. (Bar. 295), $4\frac{1}{2}$ inches by $6\frac{1}{2}$ inches.
 Book rack—Lap dovetail, 14 inches by $4\frac{1}{2}$ inches (Bar. 526).
 Compound lever—Simple mortise and tenon (Pears. XXIV).
 Hanging bracket—Stop cham., $4\frac{1}{2}$ inches by $6\frac{1}{2}$ inches (Bar. 295).
 A Framed bracket shelf, $10\frac{1}{2}$ inches by $21\frac{1}{2}$ inches (Bar. 306).

EXERCISES COMPRISED IN COURSE OF MANUAL INSTRUCTION.—See pages 121, 122, columns, "New Ex."

No.	Name	Object	Method
1	Long sawing.	To rip up a piece of wood lengthwise.	C. S. Y. 27.
2	Cross-sawing.	To saw off a piece of wood at right angles to fibres.	C. S. Y. 27.
3	Oblique sawing.	To saw off a piece of wood obliquely to the fibres.	C. S. Y. 27.
4	Edging plane iron.	Sharpening the plane iron on oilstone, &c.	C. S. Y. 21.
5	Planing up.	To produce a true surface.	Bar. 154.
6	Squaring.	To prove whether two plane surfaces in a piece of wood are at right angles.	Bar. 157.
7	Gauging.	To produce parallel lines at a given distance from edge of work.	C. S. Y. 32.
8	Tracing up.	Making adjacent surfaces level and at right angles on all four sides of a piece of wood.	C. S. Y. 28.
9	Bevelled-edge planing.	To produce a plane surface at right angles to two other plane surfaces.	Bar. 160.
10	To sharpen chisel.	Sharpening chisel on grindstone and oilstone.	C. S. Y. 21.
11	Use of tenon-saw.	To saw carefully where no other saw can so advantageously be used.	Bar. 146.
12	Horizontal paring.	To pare surfaces level with chisel.	Bar. 147.
13	Vertical paring.	To cut down a smooth surface.	Bar. 165.
14	Modelling with spoke-shave.	To dress up rounded surfaces.	H. of S. 138.
15	End squaring.	To smooth up the surfaces of end pieces across the fibres.	H. of S. 139.
16	Wood filing.	To dress up rough surfaces.	H. of S. 132.
17	Use of glass paper.	For finishing off surfaces—especially curved.	H. of S. 107.
18	Housing.	To divide boxes, &c., by means of pieces of wood.	C. S. Y. 40.
19	Setting out.	To set out divisions in the work.	H. of S. 152.
20	Boring with brace and bit.	To make a hole of large or small diameter.	H. of S. 132.
21	Boring—Dead-awl.	To produce small holes in wood.	Bar. 175.
22	Nailing.	To fasten pieces of wood together with nails.	—
23	Punching.	To sink a nail-head below surface of wood.	H. of S. 144.
24	Screwing.	To fasten two pieces of wood by means of screws.	H. of S. 134.
25	Tonguing & grooving.	Jointing by formation of the parts of the joint.	C. S. Y. 43.
26	Glossing.	To fix pieces of wood together by means of glue.	C. S. Y. 17.
27	Boring with gimlet.	To make holes for easier insertion of screws.	—
28	Smoothing up.	To dress with smoothing plane.	H. of S. 141.
29	Plan jointing.	To plane pieces of wood intended to be joined by glossing.	H. of S. 147.
30	Halving.	To joint two pieces of wood together by cutting half the depth of the wood away from each.	Joint 16.
31	Scraping.	To finish up surfaces.	H. of S. 137.
32	Half lap dovetailing.	Jointing by formation of the parts of the joint.	Joint (p. 1), 18.
33	Bow sawing.	For cutting sharp curves.	Bar. 200.
34	Modelling with plane.	To produce rounded surfaces with plane.	Bar. 238.
35	Open mortise and tenoning.	Jointing by formation of the parts of the joint.	C. S. Y. 55.
36	Angle bridding.	Jointing by means of the angle bridding.	Joint (1) 24.
37	Square shooting.	To plane a narrow piece of wood across the grain by means of shooting board.	H. of S. 151.
38	Blocking.	To strengthen by means of blocks.	H. of S. 169.
39	Parquetry.	To inlay with wood of different colours.	Bar. 220.
40	Single mortise and tenoning.	To join by means of mortise and tenon.	Joint (1), 30.
41	Wedging.	To give a joint strength under pulling stresses.	Bar. 256.
42	Rebating.	To make a rebate or groove.	Bar. 258.

A SYLLABUS OF CLASS-PROGRAMMES IN ELEMENTARY SCIENCE suited to Irish National Schools—continued.

APPENDIX A.
23.

Course.	General Title.	suited for Class.	Examination to consist of	Notes as to Teaching, &c.
C.	The Kingdom of Nature: the chief Classes of Minerals, Plants, and Animals.	V.	(a) To determine and describe the characteristics of the chief varieties of common metamorphic or sedimentary rocks, and of the more common minerals found in them. (b) To refer, giving the reasons, to their natural orders any twenty of the plants included in courses A and B. (c) To be acquainted with the distinctions of the leading classes of the vegetable sub-kingdom of animals, and to refer to at least twenty regions, say twenty animals of the locality.	(a) A case of type specimens of rocks and minerals (about 50 pieces) should be kept, and the pupils should bring all the kinds they could find in question, defining their texture, and sea shores, for comparison and identification. (b) A botanical plot, on the plan described in Hoadley's Primer of Botany, would be a great educational help in this part of the course. (c) The teacher and model must largely take the place of the specimens in the case of animals. A teacher who knows his botany, however, could often find materials for dissections and for showing structural differences, if any, in the office of the nearest butcher's shop. When studying minerals, the pupils should be made to know the simplest crystal forms, and then to prepare models of them with cardboard, wax, and wood.
D.	The Laws of Nature: (1) Energy.	V.	Partly experiments (illustrative of the leading principles of any two of the three chief forms of physical energy: motion, heat, light, electricity, magnetism, chemical action), and their relation to the experiments to be done, and also five well-defined groups, three of each group being essentially related.	The teacher should take well-marked points of contact, and carry accurately the record sheet home. Thus, several instructive experiments could be grouped around motion, or the atom, energy, or electricity of matter, or the microscope, taking the movements of a magnet needle in an external field. Clear understanding of terms, modes of measurement, &c. should be stressed. The important thing would be to give the pupils, by practical work, a grasp of the great principles, of energy and of some of its transformations. Most of the apparatus and models required could be made from drawings in the usual tracing class.
E.	The Laws of Nature: (2) Matter—the visible forms, and its constitution.	V.	(a) Twenty experiments exemplifying the leading of the visible forms of matter: solids, liquids, and gases, and their behaviour under the action of familiar forces. (b) Twenty experiments illustrative of the constitution of matter by chemical analysis and synthesis: following elements and compounds as applied to water, air, the common acids, bases, salts, and the more familiar minerals and rocks. These experiments to form essentially related groups, as in Course D.	(a) The following experimental work should be chosen: some leading principles, work on the relations of force and position in the mechanical powers, the laws of falling bodies, &c. the hydrostatics, and the properties of fluids, Archimedes, Torricelli, and Boyle in Hydrostatics and Pneumatics. (b) The course might be made a continuation of C (a) by treating of a few solids, such as granite, limestone, skeleton, rock salt, sulphur, oxygen, potassium, &c. or a group of experiments might very easily be devoted to artificial minerals. As a preliminary, however, the preparation, properties, and tests of the chief inorganic elements should be worked out. Experiments could again be led to the Manual Class for apparatus made of wood, wire, glass and sheet metal.
F.	The Laws of Nature: (3) Life.	V.	(a) To be acquainted with the life-history of plants, as manifested in their modes of nutrition, growth, reproduction, and fitness. (b) A general knowledge of (i) the agencies for sustaining animal life—Food—their constitution, use, &c. and (ii) the air—their composition, function, importance, &c. and also of (c) the structure and function of the respiratory and circulatory systems of animals. The pupils to exhibit carefully prepared, and to give explanations of twenty experiments or observations made during the year, on plant or animal life, on food tests or comparative measurements, and to give demonstrations of some by the aid of blackboard and suitable apparatus.	Book-work would have to be more relied on here than in any of the preceding courses, but this could be done, as the pupils have, if they are prepared, by this time acquired scientific method. The studies of plant life might have reference to produce vegetables. The anatomy of roots could be extended into the elementary chemistry (composition) of the starches, fats, or albumens. In treatment of the air, weather charts could be made by the aid of the barometer, thermometer, and hygrometer. An outline of physiology could be taken as part of the course, or, if the school were near the sea, the bones and habits of fishes and natural forces could be exhibited.

EXPLANATORY REMARKS.

In submitting the attached programme, it may be desirable that I should give some explanation of the lines on which it is drawn up. When I recommended, two years since, the introduction of elementary science into our schools, I wrote (in substance)—that the subjects should be approached from the side of the known and familiar, that they should dwell on broad principles rather than on minute details, that their relations and unity of plan should be kept constantly in view, and that they should address themselves more to the illustration of scientific method than to the conveyance of prepared information. I

have for many years taken an interest in the subject of scientific instruction in schools, and have felt convinced that it is only under the conditions here set forth, such instruction can be usefully given. The form and the contents of the programme which I now submit have been determined by these principles. My object is that our pupils shall be introduced to the leading facts and laws of nature by their own actual observations and investigations, acting under such skilled guidance as we can command.

In the arrangement of the programme I have endeavoured to follow the laws of mental development,

APPENDIX A.

III.

I begin with a systematic training of the observing faculty; and for that purpose the study of plant-forms is far and away the best instrument that can be devised. The materials, in endless abundance and variety, are accessible to all; they cost nothing; the moment we go outside the door we have only to stoop down and pick them up. I apply, then, the same method to such common things as stones and soils. The next step to observation in the logical sequence is classification (or orderly arrangement), and for this I make provision in the VI. Class. The teacher who works through the course conscientiously up to this point will be rewarded by finding his pupils in possession of the grammar of the natural sciences, and a love of natural knowledge which will doubtless last many of them all their lives. I need not say more to prove the superiority of the seemingly commonplace objects which I choose to the collections of artificial objects usually found in schools.

When the field of nature has been mapped out by the examination of its finished, concrete forms, the pupils go on to search into its wonderful modes of operation, or laws. This branch of the subject I have arranged under the three large conceptions—energy, matter, and life. I place energy first, because the phenomena whereby it manifests itself are, I think, more familiar, more interesting, and more easily apprehended than those of matter, and certainly more so than those of life. The mental process of abstraction is more needed when we come to matter, e.g., in the ideas of force, atoms, molecules, etc. Possibly, however, persons more competent than I am to judge may think that matter should be treated before energy: if so, courses D and E could be interchanged.

Higher intellectual powers will have to be called into play than in the early stages of the programme. The investigation of physical phenomena is a discipline in close and patient observation, in inventiveness (or original combination), in reasoning (inductive and deductive). The imagination, too, comes largely into use in dealing with matter and with vital functions. But I need not insist at any length on the educational value of these courses.

It will be noticed that I have discarded the conventional divisions of the sciences. I do not believe that in extending our successive fields of work we should be much influenced by the stereotyped scientific boundaries. These must be respected in the more specialised studies of higher schools and colleges. In Primary Schools we are not so much concerned with particular sciences, so with methodised scientific instruction applied to nature study as a whole, and our best plan is, by ascending the higher eminences, to get a comprehensive view of the entire field. The emotions of the scholars, their feelings of admiration, their sense of pleasurable satisfaction will, in this way, come more freely to our aid, and the mental enlargement and general educational advancement of the scholars will be better promoted.

Tried by the foregoing canons the programmes in elementary science which have come under my notice must, I am afraid, for the most part be pronounced defective. For the same reason the idea of a number of alternative courses, on the plan followed in the supplement to Schedule II. of the English Code, is to my mind, not admissible. I may say, too, that I dislike the general programme in elementary science

given in the English Code. The starting point is not well chosen, and the order of development does not seem to me to be educational. The programme is not a main highway traversing the whole field, and it is not adapted from the outset to purely practical work. It is no doubt premisses on my part to venture on criticism of a programme which actually finds a place in a great system of public education; but the reference to a real example enables me more effectively to emphasise my own ideas of the requirements to be fulfilled in the construction of science programmes for school children.

The object of alternative courses is, I take it, to give choice and scope to the teacher, and so to secure that his personal will and taste shall be enlisted in the service. This object I seek to effect in another way. Having set the teacher on the right road, and shown him the stations where he must pause as he goes along, I allow him considerable freedom to choose the route around these stations which are to be surveyed in detail. The route and the halting-places, are, I consider, clearly marked out on the very face of the subject for him and for me. The local occurrences to be made from each of the halting-places should, as far as possible, be determined by the teacher himself.

Not having come across any recognised programme of which I could approve, I have had really to work without any extensive help. This, however, is perhaps not so much to be regretted. It would be an easy matter enough to spread out half a dozen programmes on a table, and by an eclectic process to put a new one together consisting of fragments of each; but a programme so constructed, if noticed at all, could only mislead. I have certainly no desire to court approval for my own views on the subject of this paper, but I may claim at all events that the ideas, such as they are, which I have endeavoured to embody in the essay now presented, have been thought out long ago, and not made up for any special occasion.

I have but one further remark to make. My aim is educational, not utilitarian. The Primary School is not the place for training mechanicians, electricians, or geologists any more than it is the place for making carpenters or plumbers. Nevertheless, the great utility to an agricultural community of a course of training such as I have outlined will, I trust, be self-evident. I think I can promise that a boy who has been taken practically through such a course will have little difficulty in mastering the contents of a textbook of agriculture, and I see no other means of surmounting the preliminary difficulties which beset scientific agricultural teaching. My notes—we hear much from time to time of the material resources of the country; but how few of our people are able to form a judgment at first hand as to what these resources are and what they are not. How few even can read understandingly a useful book on the subject, such as that fine old classic, Sir Robert Kane's "Industrial Resources of Ireland." If we are to develop the resources of the country we would surely need in the first place to make ourselves practically familiar with them. Ought the schools not help to put us in the way of doing so?

JOHN P. DALTON.

Belfast, 24th November, 1897.

XII.

DOCUMENT put in by Mr. R. P. DEWAR, M.A., District Inspector of National Schools.

MEMORANDUM—RESULTS EXAMINATIONS IN NATIONAL SCHOOLS.

All schools to be divided into three classes—A, B, and C—according to merit.

Schools in Class A—the highest class—to be exempted from examination for results for three* years. Similarly, schools in Class B, the next class, to be exempted for three* years; and schools in C, the lowest class, to be examined each year.

The average rate per pupil of results fees paid to the schools in Class C could be found, and the amount calculated at this rate for all pupils in all schools in Classes A, B, and C could also be determined, and the amount added to the class (fixed) salaries of the teachers. Henceforth the schools in Class C would have no claim for results fees, and the yearly examination would go to determine if the schools were or were not to be regarded as sufficiently useful to entitle them to receive any grants from the Board of National Education. The excess of the sum now allocated for results fees over the sum calculated as above and added to the fixed salaries of the teachers, should be awarded as results fees to schools in Classes A and B, the former class receiving an appreciably higher grant per pupil in average attendance than the latter class.

Schools in Class C would be entitled on the ground of merit to promotion into Class B or A, while schools in Classes B or A would be liable to depression to a lower class if they declined in merit or usefulness.

The examination in all schools to be held in the same months in which they are at present examined for results fees, and to equalise the yearly work of in-

spection, one-third of the schools in Classes A and B should be examined in each year.

The first division of the schools might be based upon the efficiency with which the present programme has been taught, but at future examinations, order, discipline, demeanour, and classification of the pupils, the appearance of the schoolroom and premises, should form an important factor in determining the class of a school.

Reading, writing, arithmetic, and spelling, together with two "hand and eye" subjects, should be compulsory in all schools, and in addition, one other branch should be taught in schools conducted by one teacher, two branches in schools conducted by two or three teachers, and three branches in schools conducted by four or more teachers.

The "hand and eye" branches may include physical drill, drawing, experiments in elementary science, manual education, and (in girls' schools or schools with workmistresses) needlework.

Only satisfactory, or No. 1 pass marks should be taken into consideration in determining the merit of a school, and at least 65 per cent. of satisfactory passes should be required to place a school in Class A, and at least 50 per cent. in Class B.

Secondary, or incidental reports, could be furnished on schools in Class A or B during the years they are not to be examined for results fees.

R. P. DEWAR.

* Or two years.

XLII.

DOCUMENT put in by Rev. HUGH M'MENAMIN, Adm., St. Columba's, Londonderry.

MEMORANDUM ON EVENING SCHOOLS.

Necessity.

I. The great majority of Irish children are obliged, on account of their social condition, to leave school at the age of twelve or at most fourteen years, when, as a rule, they have only reached the third or fourth standard, and consequently have got but an imperfect education.

II. Towns are naturally centres of education for the surrounding districts. Large numbers, both in the towns themselves and the adjacent districts, are to be found either entirely illiterate, or at best imperfectly acquainted with the rudimentary branches taught at schools.

III. The education hitherto given in most National schools was not of that practical nature which would fit youth for the work of life. The want therefore is keenly felt of such a supplementary education in evening schools, as would enable children who have left school to apply the teaching they have got or may get to useful purposes.

Causes of General Failure of Evening Schools.

I. The curriculum for evening schools, as sanctioned by the present regulations of the National Board, is too restricted, and includes no element of practical interest to induce children who have left day-schools to avail themselves of the supplementary education to be had.

II. The salary allowed to teachers of evening schools is wholly inadequate; and hence where aid is not forthcoming to supplement the teacher's salary, school-fee, prohibitive to the poorer classes, have had to be imposed, and as a consequence many are excluded by such arrangements.

III. It is my opinion, and the opinion of several teachers who have had experience of evening schools, that individual examination as required by the results system, has a discouraging effect on grown up young men—these are unwilling to remain up to the time of examination, and when they do, they are unwilling to stand up to be examined like boys, and have their literary weakness exposed before an inspector and younger companions who have had more favourable opportunities. If the results system be continued, the present rule of examination should be changed. At present a boy must be presented in the next higher class to that in which he has passed in a National school, no matter how many years may have elapsed since he left school. If a boy be more than one year from school, his previous examination should not be taken into account in connection with his night school examination.

IV. The average monthly attendance required by the Board for results is twenty-five benevolent pupils for six months. This is considered too high in most

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cases, as such an average may be reached for the first month or two in winter, but cannot be maintained as a rule during the spring months.

Requisites for Success of Evening Schools

I. The Board should frame more generous and elastic rules for such schools. The pupils desirous of taking advantage of instruction in evening schools are mostly young men who have left, or have ceased attending day-schools, and are anxious to obtain some training that will be of service to them in their ordinary avocation. Hence, I think—to adopt the views of Mr. Lomas, Science Instructor in Liverpool—"the instruction ought to bear somewhat on the industries of the neighbourhood and on the tastes of individual students." It would be desirable then that alternative schemes, suited to the prevailing industries of particular localities, should be drawn up by the managers, teachers, and local committees, submitted to the inspectors of the district, and forwarded by him to the Commissioners for recognition and approval. Such schemes have been recognized and approved of by the Education Department in England, and are found to work well and produce good results.

II. In connection with every evening school there should be a committee of nine or ten local gentlemen, including some of the leading men of the locality, representatives of employers of labour, and representatives of the skilled artisan class. The manager of the school might be chairman. It would be the duty of such a committee to determine the amount of school fees (if any) payable by the pupils, to see to the equipment and working of the school, and secure so far as possible a regular attendance of pupils. The committee could best promote the interests of the school by frequently visiting it and manifesting a sympathetic interest in the work of it.

III. Prizes might be provided by the committee for regular attendance and proficiency. Employers of labour ought to be asked to offer special prizes to such of their employes as will attend the school and show a good record. In rural districts owners of landed property should be requested to provide prizes for special subjects. The servants of well-to-do farmers might be offered by their masters some inducements to attend school as often as their circumstances would admit. In the case of younger pupils it would be an additional inducement if a social entertainment at the end of the season were given to those who had made satisfactory attendance.

Examination.

The present results system requires a searching examination of each pupil in all the subjects taught.

This does not suit evening schools. It would be more satisfactory if in lieu of results a capitation fee were paid on the average attendance for the session, the amount to be subject to the inspector's report according as he marks the result "fair," "good," or "excellent." If desirable a record of the work done by the pupils each week could be kept by the teacher and committee, to assist the Inspector in arriving at a correct estimate of the general proficiency of the pupils.

General Scheme of Work.

To give interest to each evening's work, it would be well to have some elementary scientific experiments made, for a short time, by the pupils themselves under the direction of the teacher. Three nights each week should be devoted principally to suitable literary work, and one night each week to manual training. Where the teachers are not at present qualified to teach manual work, a peripatetic teacher duly qualified could take a group of schools and teach one evening each week in special subjects. It is found from experience in England and Scotland that manual instruction in evening schools is so popular that it serves as a "bait" for the literary classes, no pupil being allowed to attend the manual classes who does not attend the literary as well. The change of occupation, according to the testimony of experienced educationists, renders school-work more attractive. Dull boys, they say, are encouraged when they see there is something they can do well. Self-confidence and self-respect are given to young men when they see that they can raise themselves on the industrial ladder by their efforts to obtain manual instruction.

Liberal salaries to teachers of evening-schools should be allowed by the Board. The average for an assistant in evening schools should be reduced to thirty, because the class of pupils attending such schools require more individual teaching.

There should be in all cities and towns evening-schools. In each rural parish there should be at least one school in as central a position as can be conveniently arranged.

It is only in cities and towns that evening schools for girls can well be established and carried on. Where it is found convenient to have them, special attention should be paid to instruction in cookery, laundry work, dressmaking, domestic economy and elementary botany.

To influence public feeling on the utility of evening schools, public lectures should be given, at which parents and guardians of children, and employers of labour should be invited to attend.

XLIII.

DOCUMENT put in by REV. EDWARD M'KENNA, F.R. V.P., Jandy, Co. Londonderry.

MEMORANDUM ON MANUAL INSTRUCTION.

I propose to deal with only one little department of handicraft; but, if it be little in its scope of knowledge, it will be great in its usefulness, and extensive in its range; for it could be spread throughout Ireland, and into every corner of it, inside of one year. I refer to a small amount of manual instruction for our bigger growing boys.

I know, and every one that has looked at the matter knows, that out of every ten such boys there is not even one of them that can suitably saw a board, or drive a nail, or bore a hole with a bradawl. If the cart shaft of one of our farmers happens to be broken in his throng of pointing out his measure, no carpenter being at hand perhaps for a week, would it not be a glad sight for that farmer to see that his own son

could splice it, and that at another time he could mend his wooden gate or make a small iron one, or repair his ladder, or wheelbarrow, or barn door?

My view then is not indeed to make his boy a tradesman, or the twentieth part of a tradesman, but merely the useful handy man. The local expert artisans need be no way alarmed, for, as a rule, my non-professional worker will merely do those things which they will never be called on to do, and the growth of taste for domestic usefulness is a help more than a hindrance to the trade of the thorough workman.

I think that, as practical men, we should aim at what is feasible and sure to be practical, and with the least cost and the least outlay of the pupils' time,

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XLIII.

teach such boys to handle plain tools in woodwork for firehouses purposes, and also in those metals that can be worked without a forge.

If tools of this description be used, it would be useless, and against the wish of parents, to put them into the hands of boys under 14 years of age. Boys between 14 and 20 can be safely and profitably taught to use them.

The tools to begin with should be simple and few for the first year, and for woodwork only—A hand-saw and smoothing plane, rule, square, bradawl, turn-screw and claw hammer.

The piece of furniture to be made and to suffice for a year, for the first year should be of simple and easy make—a stool with V feet, 2½ feet long, without carvings, and made firm with side runners. If more is attempted, the project may fall to the ground. During the second year a more difficult work could be done, such as splitting a coat shaft, making a mortise, a miniature roof, or using the jack-plane.

It is needless to say that the sound of saw or hammer could not be in any school-room during time of literary teaching. If the children under 14 be disposed an hour before the time, to make way for this manual instruction, even though enough of 14-year boys remained, the younger community would be deprived of the time for the ordinary schooling that is sorely needed and justly due to them. Loss of the present programme, on any other equal to it in literary merit, must, of course, be taught to the children who have to leave school in an early part of the course; but it has to be borne in mind that, as a rule, our lawyers, medical men and clergy, bank and other clerks, civil service and intermediate students, are taught and well grounded in knowledge at our National schools, and this section of our young people should not be deprived of these advantages. Our national system is a kind of compromise for providing, in the same case, for our lower and higher school teaching; and the compromise, the necessities of the country require and demand. A young girl was taught from her childhood at a National School under my own management till about 18 months ago, and this year, she took first place in Great Britain and Ireland for a post-office clerkship.

But even though the younger children were let go without any loss to them—at, say, 2 o'clock, the boys of 14 that would remain till 5 for this handicraft instruction, would not amount to more than 4 or 5 on an average. When I went to my own male school on last Monday, and it is a 40-average school, there were only two boys over 14. Then we have the hard fact—that we haven't the boys; and no matter how kindergarten or drawing or elementary science may sharpen the intelligence inside the schoolroom, they will never enable boys to do this tool work without the "putting-to of the hand." Where then are the boys to be found? They are nowhere to be found in sufficient numbers unless outside the school-going classes. It is only through the country that enough of boys for this kind of instruction can be had between 14 and 20 years of age, and, of course, the older 4 or 5 boys at school could be of the number instructed. This kind of handicraft must therefore, from the sheer necessity of the case, be given in the evening between 4 o'clock and 8.

The only workshop we have in the schoolhouse, and it is well that we have it, such as it is, ready to our hand. One of your witnesses said, truly enough, that the thing can never be done properly till a workshop be provided beside each school, but to provide these, would be a gigantic and tedious undertaking. If there be 4,000 country schools under male teachers, and if it would take £100 to put up even a modest workshop, the cost would amount to 240,000. Who will provide these shops?—the Board or the managers?—and when will they be provided? Till this happy provision be made, let us do what we can, in the schoolroom, to help without delay the untutored hand to do much that is useful.

What manner of man is the teacher to be? He

must be a well-educated, competent carpenter, capable of teaching intelligently, and he must be gifted with that kindness of manner that is suited to gain the good will of boys. He must be appointed and paid by the State, and the rest of the outlay must be provided by it also, or, otherwise, the undertaking will never be attempted. He should be a man worth paying a hundred a year to—£30 for salary and 1s 6d for each successful pupil; and, as he would be, in my proposal, an itinerant teacher, he would need 4s a day for his car fare for his working days, as will appear necessary when the rest of my plan is explained. What is the explanation?

Let this workman have charge of 20 country schools. Let us say that the 20 will cover a strip of country about 15 statute miles in length by about 8 or 9 in breadth. There will be, of course, every variety of slope of area; but I take my own neighbourhood as an example. His class hours will be from 4 in the evening till 8. I would expect 20 boys to come to each school, and these he would have charge of 400 boys. He would have 12 evenings for each of the 20 schools—that is, one four-hour lesson in the month for each. For, deducting from the 365 days in the year 52 Sundays, 30 Saturdays, and 10 holidays, there are 251 days left; and if we give 12 days to each of the 20 schools, we will have 240 working or class days, and 11 for vacation.

It is plain that having such a stretch of country to go over, the teacher would need a car to take him at 8 o'clock at night to his lodgings, and 4s. for each day of 240 would come to £48. He would save car fare when the schools were near his lodgings, but he would have more than 4s to pay for a distant journey. These sets of tools should be provided in each school, say, for a small beginning, £2 worth in each, or £40 for the 20. Planned timber and nails for the made work would cost about 10s. for each school—£20 for all. I say "planned timber," for I would not put the difficult work of the jack-plane before the boys till the second year. For waste or pruning timber, 2s each school, or £2 for all. Light and fuel for 20 schools for 12 evenings in each school, dark and clear evenings one with another, 240 evenings, at 1s 6d, would cost £18. Heavily fee or premium for yearly passes to be paid to the 400 pupils, 10s. to each, in addition to the article made, which the boy takes to his own home, amount to £200. But why give this premium? Is free and useful instruction not premature enough? It is not, for, as boys will be no more than boys, they require some little inducement to make them want to come. Are not pupils in England paid by the Science and Art Department a good deal for mere attendance at class? But would I give 10s in cash to the successful pupil? By no means, but I would give him a saw, claw hammer, square, rule, and bradawl, or whatever would be value for the 10s. These are to be taken to his father's house, and when these the tools will be sure to be not left idle. The industrial training will be thus continued to some extent at the boy's own home. Some younger brother will get a taste for the work, and the utter absence of tools will be no longer a characteristic of that boy's house. If it happens that a boy can say, "My father has a good saw already," I would give him another tool instead. These small items yet reason for tool and fuel-house and savings of materials. The first thing the tradesman and his pupils should make would be a tool-box, 5 feet long 18 inches high, and 10 inches wide, provided with a Cramb's lock, and then a box of some kind to hold fuel and candles. The keys of both are to be kept by the section-teacher, who is to see that his boys clean off all sawdust and the like at the close of class time, and leave everything in as neat order in the room as when they entered it. The cost of materials for these two articles will be about 5s. each, or £10 for the 20 schools. The boxes will not be in the way. They will provide extra seats for the children, and the timber, when neatly placed on rests

ARTHUR A. KILN.

along the wall, will do the same. The cost of carriage of materials to the 20 schools may be put down as 2s. for each, or £2. We have now come to the end of the outlay, and the total cost would be £450. or £22 10s. per school, and the total cost of each pupil would be only £1 2s. 6d. for this continuation or technical schooling, whereas their earlier schooling under the National Board costs for each £2 2s. 6d.

The number of boys thus instructed at 4,000 schools, that is, throughout the whole of rural Ireland, would be 80,000; and at £1 2s. 6d. for each boy, the amount would be £200,000 for this whole kingdom.

In this skeleton sketch I seem to have, but I have not really, excluded town schools; for I don't see why the plan could not be worked in same way in them for a start, till real technical schools could be provided. Boys in towns, who must emigrate like others, have hardly just as unfitted as those of our country boys.

Then, again, our present National teachers could qualify themselves in a year or two to teach this tool-work, by attending to the artisan lessons. Their drill of mind, produced by their literary training, would soon fit them to take the place of the artisan-teacher. Each could then instruct in his own school, and the teachers should be encouraged by a resolution of the Board that, if certificates for competency be given them for the teaching of this handy-man's use of tools, they will be paid sufficient results fees for their extra evening work.

Who is to be the examiner of the work done by the boys?

There should be a Committee appointed, as a kind of extension of the Science and Art Committee. I would make all managers of schools, the clergy of all denominations, whether managers or not, and all the justices within the area, ex-officio members of it; and I would give power to each manager to appoint, as additional members, six intelligent men in the immediate neighbourhood of each of his schools, with the good will, of course, of the apprentices. They and the other members could visit the schools now and again at close times. Two members of Committee, one of whom must be a justice or a clergyman, who see the boy make the required article, and certify that and that it is sufficiently made, can sign a certificate entitling the boy to his premium. The very formation of such a Committee of various denominations would create in its own members a social and friendly feeling, which would tell for the common good, would cause the community to take an interest in the project and to give it a greater welcome. The artisan could be directly appointed by the State or by the Committee, whose appointment would be, of course, subject to approval.

I would say that no boy should get a pass who had not attended eight of the practices—that no boy can be presented for a third pass, and that no working carpenter's son who lives with his father, and no carpenter apprentice can be allowed to receive instruction under this scheme.

To give a clearer idea of the proposal and the outlay then could be given by my narrative outline, I append the following summary:—

SUMMARY.

Twenty schools with 20 boys at each—400 boys
one four-hour lesson for each school, in the
month, or 12 lessons in the year

Approximate Cost.

	£	s.	d.
Payment to artisan-teacher, including results fees,	100	0	0
One fare, 4s. a day for 240 teaching days,	48	0	0
Tools for 20 schools, three sets for each, at £2,	40	0	0

	£	s.	d.
Planned timber and nails for final or made work, £1 10s. each school,	30	0	0
Waste or positioning wood, 20 schools, at 2s. each,	2	0	0
Light and fuel for 20 schools, 12 evenings for each school, 240 evenings at 1s. 6d.,	18	0	0
Premiums to successful pupils, paid in tools, 10s. each, to 400 boys,	200	0	0
Box for tools—all materials—5s. for 20 schools,	5	0	0
Box for fuel and candles, 5s., for 20 schools,	5	0	0
Carriage of materials to 20 schools, 2s.,	2	0	0
Total,	450	0	0

Each school of the 20 costs £22 10s.

Each pupil of the 400 costs £1 2s. 6d.

4,000 schools, 20 boys at each—80,000 boys at £1 2s. 6d., cost £200,000.

I have now given a foundation rough draft of the scheme—to be modified, of course, according to the requirements of each case; and, if it be carried out, what could not the boy do, at home and abroad, with this fragment of knowledge? At home he could make the clothes-rack and book-rack and box and drawers and dairy shelves and hen coops, where there were none, and floor with boards the damp, unhealthy bedroom; and, if he was to go abroad, say to a farmer in Minnesota, and is able to point stakes for a fence or roof a cattle shed or poultry-shed, who will say that he will not be a more acceptable man and a better paid man than the emigrant who has hands only for a spade or pickaxe?

If any one objects that twelve lessons in a year will not fit a boy for making the piece of furniture I have named, I can tell him that I got two unskilled boys, between 14 and 17, to begin their first lesson on last Monday evening in Clancy school—a two-hour lesson—and after the third such lesson they were able to square, line out, and finish a stool, and finish it sufficiently well, in one hour and a quarter. I was present at the making of it and at all the handwork lessons. To the making of the article my carpenter never put his hand, but he previously taught them, at his three lessons, what Mr. Norris of Birmingham spoke of to this Commission—the work of the hand and eye, or accuracy, then clearness, then the reason for doing each thing, and to take an interest in what was done. If they could do this after three earnest lessons, could they not do it in eight or twelve of ordinary application? I say ordinary application, for, no doubt, the extra attention given by a clever artisan and my own supervision had much to do with the speed of the progress made. The query may be put—how can 20 boys be instructed together in one apartment?

I answer, there is no necessity for the "together." Let five boys come from 4 o'clock to 5; from 5 to 6 five more, from 6 to 7 five more, and from 7 to 8 the remaining five. Each of a five group can use the tools, and, when not using them, can profitably look and listen during the lesson.

It may be objected, alas, that I cannot have a bench in the school, but I answer, strange-looking as it may seem, that it is perhaps as well and even better, as the boy will have no bench at home, and he will be the better fitted to work with his hands unencumbered.

I have striven with much labour to construct the whole framework of the project, and to go into its humblest details, in order to give all the aid in my power to a Commission whose advent was very welcome to us all, and not less so to me, for, I have felt so keenly for the distressful unhandiness of our youths, that I provided on the Board of Works to

allow me to provide, for this manual instruction, an attic in each of the last two school-houses I erected.

I wish finally to emphasize the fact that no matter what any Board may do at desk-work training, however much that training may sharpen the mind or guide the hand, it can never, as I have said, teach the handling of tools, and no matter what it may do at tool-training in technical schools in towns, that training can never reach our rural homes.

It would surely be a reward for the painstaking labours of the Commission, and a triumphant one, if they could say:—"We have been the means of bringing some useful practical knowledge into every farmer's house in Ireland." If they cannot point to this great result the unskilled hands of these 80,000 boys will be always there, staring us in the face.

APPENDIX A.

XLIV.

XLIV.

APPENDIX A.

XLIV.

DOCUMENT put in by Mr. WILLIAM B. GIBSON, Treasurer, Edinburgh School Board.

COST OF EQUIPMENT FOR INSTRUCTION IN WOODWORK.

EDINBURGH SCHOOL BOARD,

School Board Office,

Castle-terrace,

9th November, 1897.

DEAR SIR,

I have the pleasure to send you herewith a priced list of the tools supplied to the workshops in our Board Schools. You will notice that the tools specified are sufficient for a class of twenty boys.

I have obtained from the former who was the contractor for the workshop at Canongate School, which you visited, the following statement as to the prices of benches made of different kinds of wood, and fitted with different kinds of vices, and also the cost of providing tops for the benches when used by the Cookery Class, viz.—

Benches for four boys, 100. by 30. by 25 6 ins. high, white wood tops, sides, legs, and lockers below, four beech jaws and screws, £5 2s.

Same as above, but fitted with four Parkinson's patent vices, £5 12s.

Benches with red wood tops and birch sides, lockers, &c., with four beech jaws and screws, £5 12s.

Benches as above, but fitted with Parkinson's patent vices, £6 12s.

For Cookery Class.—Butcher's covers for benches, made in two halves, £1 5s. for each bench.

I am,

Yours very truly,

WILLIAM B. GIBSON.

J. D. Daly, Esq., Secretary, Commission on Manual and Practical Instruction.

LIST OF TOOLS SUPPLIED TO SCHOOLS in which INSTRUCTION is given in WOODWORK to 20 pupils at one time in same class

	£	s.	d.		£	s.	d.
Twenty jack planes, fitted with 3-in. irons, and having boxwood knobs in front ends, 8s. 8d.	3	13	4	Four bow saw blades, 2 of 14 in. and 2 of 12 in., 4d.	0	1	4
Twenty smoothing planes, 2-in., irons, 2s. 8d.	2	13	4	One best quality fret saw frame, 1s.	0	1	0
Two open planes, 1 each 3-in. and 1 1/2-in., 1s. 9d.	0	3	6	Twenty-four best quality fret saw blades, 3d.	0	6	0
Two block planes, 2 1/2 in. irons, 1s. 1d.	0	8	2	Note.—All the above saws to be of R. Sorby's make.			
Two rebate planes, 1 each 2-in. and 1 1/2-in., skewmouthed, 1s. 10d.	0	3	8	One pad saw handle with 2 blades, 1s. 3d.	0	1	3
One router plane, with 3 irons, 1 in. and 3/4 in., 2s. 3d.	0	3	3	One saw set, Morrill's patent, 2s. 5d.	0	2	5
One bead plane, 2-in., fall box, 1s. 11d.	0	1	11	Twelve saw files, 4 of 9 in., 2 1/2 d.; 3 of 6 in., 1 1/2 d.; and 2 of 6 in., 1 1/2 d.; and 3 of 4 in., 3d.	0	3	2 1/2
Note.—The above planes to be of Mallock's make, and fitted with best quality irons, ground and set ready for use.				One 8-in. mill saw file, 7d.	0	0	7
One Stanley hand plane, No. 4, 7s. 6d.	0	7	6	Six 8-in. cabinet files, 7d.	0	3	6
Twenty blue back 10-in. tenon saws, blades to stand, No. 22 B.W.G., 3s. 3d.	3	5	0	Four 8-in. wood rasps, 8d.	0	2	8
One rip saw, 24-in., 4s. 6d.	0	4	6	Three saw file handles, 1d.	0	0	3
One half rip saw, 24-in., 4s. 1d.	0	4	1	Nine wood file handles, 1d.	0	0	9
One panel saw, 23-in., having 9 teeth to the inch, 3s. 10d.	0	3	10	Twenty bevelled 1-in. chisels, 1s. 1d.	1	1	8
One panel saw, 23-in., having 12 teeth to the inch, 3s. 7d.	0	3	7	Twenty bevelled 1-in. chisels, 1 1/2 d.	0	18	4
One 14-in. bow saw, 3s. 3d.	0	3	3	Twenty firmer 3/4-in. chisels, 6 1/2 d.	0	14	2
One 12-in. bow saw, 3s.	0	3	0	Twenty firmer 1/2-in. chisels, 5d.	0	8	4
				Twenty firmer 1/4-in. chisels, 5 1/2 d.	0	8	4
				Two firmer 3/4-in. chisels, 6d.	0	1	0
				Two firmer 1/2-in. chisels, 5d.	0	0	10
				Twenty straight firmer 1/2-in. gouges, 7 1/2 d.	0	12	6
				Ten straight firmer 3/4-in. gouges, 7d.	0	5	10
				Ten straight firmer 1/2-in. gouges, 6 1/2 d.	0	5	5
				Two straight firmer 1/4-in. gouges, 6d.	0	1	0
				One straight firmer 1-in. gouge, 8 1/2 d.	0	6	8 1/2

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APPENDIX A.

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	£	s.	d.		£	s.	d.
Two incannel scribing $\frac{1}{8}$ -in. gauges, 7d.	0	1	2	One grindstone (22 in.), $\frac{3}{4}$ in. thick, fitted on iron stand with shoe cover, water can, treadle handle, stepcocks, &c., complete.	2	17	0
Three Carver's bent gouges, about $\frac{1}{8}$ -in. 10d.	0	2	6	Two best quality Washita scissoring stones, fitted into boxes, size 8 in. by $1\frac{1}{2}$ in. by 1 in., 3s.	0	6	0
Four socket mortises, $\frac{1}{4}$ in. side, 10 $\frac{1}{2}$ d.	0	3	6	Two best quality Washita gouge slips, 8d.	0	1	4
One socket mortise, $\frac{1}{4}$ in. and $\frac{1}{2}$ in. chisel, 10 $\frac{1}{2}$ d.	0	1	9	Twenty best plated 6 in. rosewood squares, 1s 1 $\frac{1}{2}$ d.	1	2	6
Note.—All the above chisels and gouges to be of R. Serby's make, and carefully fitted with hard red-beech handles of approved pattern, and ground and set ready for use.				One best plated 12 in. rosewood squares, 2s 1 $\frac{1}{2}$ d.	0	2	1 $\frac{1}{2}$
Twenty-five one foot rules (boxwood), with brass tips, 5 $\frac{1}{2}$ d.	0	10	6	Two best plated $7\frac{1}{2}$ in. sliding bevels (rosewood), 1s 6d.	0	3	10
Twenty pairs 6-in. wing compasses, 1s 5d.	1	8	4	One best plated 9-in. sliding bevels (rosewood),	0	1	7 $\frac{1}{2}$
Twenty-four pairs brass pencil compasses, 10 $\frac{1}{2}$ d.	1	0	6	Name stamp of school,	0	3	8
Two 6-in. bright steel G. cramps, 2s. 8d.	0	5	4	Two small glue brushes with handles of wire,	0	0	10
One 2-ft. 6-in. sash cramp, bar $1\frac{1}{2}$ in. by $\frac{1}{8}$ in. 8s 6d.	0	8	6	Five bench brushes, 10d.	0	4	2
One parallel vice with steel jaws to open 4 in.,	0	10	9	One camel hair brush for spirit varnish, $1\frac{1}{2}$ in. wide,	0	0	7
Six 8-oz. pin hammer, 1s 3d.	0	7	0	Twenty-four drawpoints, with chisel ends, 3 $\frac{1}{2}$ d.	0	5	0
One No. 2 claw hammer, American pattern,	0	1	2	One pair 6-in. planes,	0	1	7
One grinding rest,	0	4	0	One pair 6-in. planes,	0	0	8
One No. 2 axe, American pattern,	0	2	8	Four wood hand-saws, 10 in., 9d.	0	3	0
Two braces with ball heads, American pattern, 4s. 9d.	0	9	6	Six 6-in. L.P. turn-screws, 6 $\frac{1}{2}$ d.	0	3	1 $\frac{1}{2}$
Twenty mortises with square mortises, 11 $\frac{1}{2}$ d.	0	19	2	Three small spindle pattern turn-screws, 6d.	0	1	0
Twenty bench marking gauges, 7d.	0	11	8	Three pieces of cork, size about 5 in. by 4 in., 4d.	0	1	0
One bench cutting gauge,	0	0	8	One centre punch,	0	0	3
Two rosewood mortise gauges with thumb-screw, 2s. 6d.	0	5	0	One solid chisel with $\frac{3}{4}$ in. edge, for iron or sheet iron,	0	0	5
Two short auger bits, 1 each $\frac{1}{2}$ in. and $\frac{3}{4}$ in. (Jennings), 1s.	0	2	0	Three small nail punches, 1d.	0	0	5
Two drill bits for brass, 1 each $\frac{1}{2}$ in. and $\frac{3}{4}$ in., 3d.	0	0	6	Four steel snappers, size 3 in. by $1\frac{1}{2}$ in., 3 $\frac{1}{2}$ d.	0	0	10
Four countersink bits, 2 for brass and 2 for wood, 3d.	0	1	0	One steel scraper, size 4 in. by 3 in.,	0	0	5
Two turn-screw bits, 1 plain and 1 forked, 3d.	0	0	6	Two bench oil cans, 4d.	0	0	8
Three rimer bits, 1 each for brass, iron, and wood, 3d.	0	0	9	One small tin filler,	0	0	2 $\frac{1}{2}$
Six shell bits, assorted sizes, 3d.	0	1	6	Three half-gallon oil cans, fitted with brass screw top, 7 $\frac{1}{2}$ d.	0	1	10 $\frac{1}{2}$
One iron countersink drill bit, 3d.	0	0	3	One glue pot, size about 6 in. diam. outside,	0	1	1
Fifteen centre bits with size stamped on each, 2 each $\frac{1}{2}$ in., 3d.; $\frac{3}{4}$ in., 3d.; $\frac{1}{2}$ in., 3d.; $\frac{3}{4}$ in., 3d.; $\frac{1}{2}$ in., 4d.; and 1 in., 4d., and 1 of $1\frac{1}{2}$ in., 6d.	0	4	4	Three tea scootch glue, 7 $\frac{1}{2}$ d.	0	1	10 $\frac{1}{2}$
Twelve hand-drawn blades, assorted sizes,	0	1	2	Half gallon each raw linseed, 1s. 3d.; colza, 1s. 4d.; and paraffin oil, 2 $\frac{1}{2}$ d.	0	2	8 $\frac{1}{2}$
Twelve hand-drawn blades,	0	0	5	One gross-screw, each, $\frac{1}{2}$ in., No. 3, 5 $\frac{1}{2}$ d.; $\frac{3}{4}$ in., No. 5, 6 $\frac{1}{2}$ d.; 1 in., No. 6, 8 $\frac{1}{2}$ d.	0	1	8 $\frac{1}{2}$
Three spokeshaves with beech stocks, 7d.	0	1	9	One lb. each, oval wire nails, $\frac{1}{4}$ in., 3 $\frac{1}{2}$ d.; 1 in., 3d.; $1\frac{1}{2}$ in., 2 $\frac{1}{2}$ d.; $1\frac{1}{2}$ in., 3 $\frac{1}{2}$ d.; $1\frac{1}{2}$ in., 3d.; and 3 in., 3d.	0	1	8 $\frac{1}{2}$
Two " with boxwood stocks, settable for quick curves, 10d.	0	1	8	One quire sand paper, each No. 1, No. 1 $\frac{1}{2}$, and No. 2 F., 8 $\frac{1}{2}$ d.	0	2	1 $\frac{1}{2}$
One spokeshave with iron stock,	0	1	2	Total,	433	2	5

XLV.

DOCUMENT put in by Mr. ANDREW C. TAIT, Head Master, Sciences Evening School, Edinburgh.

SCHEMES FOR TEACHING SCIENCE AS APPROVED BY SCOTCH EDUCATION DEPARTMENT.

Electricity.

I. Short sketch of Fractional Electricity

II. Voltaic —

Cells and batteries: description of most common cells

Properties and effects of current.

(a) Thermal measurement and arc-lights
Conduction and insulation

(b) Chemical — electrolysis, electro-plating and electro-typing.

(c) Magnetic — simple form of galvanometer, electric telegraph, electric bells — electro-magnets — induced currents.

Heat

Sources of heat—heat and temperature—temperature and thermometers.

Expansion (linear and cubical) of solids, liquids, and gases.

Practical illustrations of inextensible force of expansion.

Unequal expansion: compensated pendulums; winds.

Ignition of bodies: the Davy lamp.

Peculiar behaviour of water: its importance in nature.

Specific heat.

Transmission of heat: conduction, convection, radiation.

Differences in conductivity.

Heating of buildings by hot water: ventilation of houses, mines, &c.

Reflection and absorption.

Experimental Science.

Investigation of the properties of matter by experiment, and of the relations of the various mechanical forces upon its atoms.

Matter in three states: their characteristics.

Force and matter.

Gravity—weight—the pendulum.

Pressure of liquids and the air: the common pump and barometer.

Chemistry of air and water: heat, expansion, and contraction: the thermometer.

Oxygen and nitrogen: combustion, ventilation, conduction, radiation.

Carbon: coal and coal gas.

Oxygen and hydrogen: water, its composition; soluble and insoluble bodies.

Facts and principles most serviceable in daily life.

Mechanics.

Matter.—Properties of solids, liquids, and gases.

Matter in motion.—Gravity, specific gravity, inertia, laws of motion.

Machines.—The lever and its applications.

“ Wheel and axle.

“ Pulley.

“ Inclined plane.

“ Wedge.

“ Screw.

Pneumatics.—Expandibility of gases: weight and pressure of the atmosphere: the barometer.

Pumps.—The air pump—common pump—force pump—fire engine.

XLVI.

APPENDIX A:
XLVI.

DOCUMENTS put in by Mr. ANDREW E SCODGAL, One of Her Majesty's Inspectors of Schools under the Scotch Education Department.

(1.)

LEITH SCHOOL BOARD.

Particulars as to cost of Manual Training and Model-work.

In 1888 elementary science was taught for the first time in one school.

In 1889 the subject was taught in all the schools. Boys only received instruction.

About this time also kindergarten was introduced into infants' departments.

In 1890 drawing, which had some years previously been taught in a manner in several schools, was resumed in two schools; and

In 1891 the subject was taught in all the schools; in some to boys only, in others to both boys and girls.

In 1893 woodwork was begun in one school, and so far it has not been extended, but there will be workshops in the new academy, and in plans recently approved by the Board for a considerable addition to another school, a wood workshop is included.

In 1890 hand and eye training, consisting of clay-modelling, cardboard work, paper-folding, wire-work, &c., was introduced into the mixed departments of all the schools. The subject is confined to boys.

In 1895, prior to the introduction of hand and eye training, the cost of apparatus was £750. A year later it had risen to £1,370. Between 70 and 80 per cent. of the increase was due to the new subjects. The cost per scholar in average attendance in 1895 was about 1s. 9d., and in 1896 the cost per scholar was about 2s. 9d.

the cost of each of the various branches for which apparatus has to be supplied. The figures are those for Yardhall School for the year 1896. This school is by no means one that works with a large supply of apparatus.

Hand and Eye Work,	-	£11
Kindergarten,	-	£17
Drawing,	-	£33
Needlework,	-	£5 plus teacher's salary.
Cookery,	-	£2 do.
Science,	-	£7
		274

For woodwork alone in Craighall-road School the cost in 1896 was £30, plus £80 for special teacher's salary.

As few of the teachers in the Board's service were specially qualified to give instruction in hand and eye training, the Board appointed these instructors, one each for clay-modelling, cardboard work, and wood work. Their salaries, &c., are not included in the above figures.

In 1888 the cost of books, apparatus, and stationery for all the schools (9) was £198, or 7d. per scholar in average attendance. In 1896 the total cost was £1,527, or 3s. 3½d. per head.

Except to a very small extent the whole of this increase is due to the introduction of kindergarten, drawing, hand and eye training, woodwork, and science.

ROBERT HARRIS, Clerk.

Leith, 26th October, 1897.

(3.)

PROGRAMME OF INSTRUCTION IN LOCKHED-ROAD
SCHOOL, LESTER.

(a.) KINDERGARTEN OCCUPATIONS.—

Junior Infants:—

Building—Gifts 3 and 4.
 Tablet laying.
 Stick-laying.
 Drawing.
 Winding.
 Parquetry.

Senior Infants:—

Building—Anchor blocks.
 Weaving.
 Colouring—Crayons.
 Jointed laths.
 Sewing.
 Drawing.
 Paper-folding.

Standard I:—

Paper-folding.
 Paper flower-making.
 Brush-work.

(b.) OUTLINE SCHEME OF MANUAL INSTRUCTION.—
1896-7.

STANDARD I.

Kindergarten drawing as an introduction to free-hand drawing.
 Paper-folding, cutting, and mounting.

STANDARD II.

Kindergarten drawing as an introduction to free-hand drawing.
 Paper (coloured), drawing, cutting, and mounting.

STANDARD III.

Drawing, cutting, and mounting as in Standard II, but carried to a greater extent if progress warrant and time permit.
 Clay-modelling.

STANDARD IV.

Drawing and colouring on chequered paper.

STANDARDS V. AND VI.

Easy exercises in cardboard modelling, giving practice in drawing, cutting, and binding the easier models.

(c.) SCHEME OF LESSONS IN ELEMENTARY SCIENCE,
1896-7 (same as last year).

STANDARD I.

Physics.—Lesson on common substances to illustrate some of the properties of matter, such as hardness, softness, divisibility, solubility, with the view of cultivating the faculty of observation.

Plant Life.—Objects, living and non-living. General description of a plant (root, stem, leaf, flower, fruit, seed). Object lessons on common food plants—e.g., turnip and carrot (root), cabbage and onion (leaves), wheat and oats (fruit).

Animal Life.—Characteristic external features, habits, and uses of common animals:—

Beasts of Prey.—Cat, dog.

Beasts of Prey.—Horse, donkey.

Other useful animals.—Cow, sheep, hen, pigeon, bee, horning.

STANDARD II.

Physics.—Lessons on evaporation and condensation, porosity, diffusion, elasticity, plasticity—all to be illustrated by practical experiments performed both by the teacher and the pupils.

Plant Life.—General description of a plant, more especially of the flower, fruit, and seed, from specimens supplied by teacher and pupils. Information and object lessons on some fruits and seeds used for food, such as the pea or bean, apple, orange, or lemon, cherry, gooseberry, cocoa, coffee.

Animal Life.—Animals—points of resemblance and difference. Classification of animals into vertebrates and invertebrates. Sub-division of vertebrates into mammals, birds, reptiles, amphibians, and fishes, with a typical example of each.

STANDARD III.

Physics.—Lessons on the properties of matter continued—cohesion, adhesion, fusion, ductility, tenacity, malleability, treated as in the previous Standard. Information and object lessons on some of the more common metals—iron, lead, copper—dealing with their ores, processes of extraction, and the chief articles manufactured from them.

Plants.—Vegetable substances used in manufactures, as flax, hemp, cotton, cork, india-rubber. Lessons on the following trees and their uses—oak, elm, ash, plane, fir.

Animals.—Classification of animals—Points of resemblance and difference. Lessons on invertebrate animals, subdivided into annelids (crabs, spiders, insects), Molluscs (cuttle fish, snails, oysters), Radiates.

STANDARD IV.

Physics.—Measurement—standards of length, English and French. Areas and volumes. Weights, English and French, standards and subdivisions. The balance. Experiments in its use.

Plants.—Structure of plants—wood, bark, pith, cells. Use of the different parts of a plant.

Chemistry.—Water—its three states—expansion by heat, convection, boiling point, freezing point. Air.—Contraction and expansion, weight, constituents and their properties. Impurities of air. Aqueous vapour.

The principles underlying the construction of the barometer and thermometer.

STANDARD V.

Physics.—Magnetism. Attraction and repulsion—magnets, poles, declination, inclination. The earth a magnet. The mariner's compass.

Plants.—Function of the flower. General account of pollination and fertilization. Lessons on the buttercup, wall-flower, carnation, pea, rose, dandelion, or daisy, primrose, with the characters of the natural orders to which they belong.

Chemistry.—Distinction between elements and compounds—metals and non-metals. Chemical action. Preparation and properties of oxygen, hydrogen, and nitrogen. All to be taught by showing the substances, preparing the gases, and demonstrating their properties by actual experiment.

STANDARD VI.

Physics.—Electricity.—Frictional.

Electrification. Electrics and non-electrics. Conduction. The Electroscope. Induction. The Leyden jar. Atmospheric electricity. Franklin's experiment. Lightning. Thunder. The Aurora. Lightning conductors.

Electricity.—Voltaic.

Fundamental experiments. The simple cell. Effects produced by the current. The Galvanoscope. Polarisation. Common voltaic cells. Batteries. Resistance—Ohm's law. Thermal effects. The voltaic arc. Incandescent lamps. Magnetic effects of the current.

Plants.—(1) Principles of classification and general knowledge of the chief orders.
 (2) Formation and functions of the fruit and seed.
Chemistry.—Atoms and molecules. Chemical affinity. Carbon. Carbonic acid gas. Coal gas. Carbonates. Chlorine. Hydrochloric acid. Chlorides. Sulphuric acid and sulphates. To be treated as in previous Standard.

(3)

PROGRAMME OF INSTRUCTION IN COUPER-STREET SCHOOL, LEITH.

(a) ELEMENTARY SCHOOL.

STANDARD I.

Matter.—Lessons on liquids and solids; on bodies that are hard, soft, brittle, tough, porous, and plastic (in this connection lessons on clay, putty, gutta-percha, &c., will be given.) Lessons on substances that are soluble and insoluble, combustible, inflammable, fusible, and electric.

Animals.—Object Lessons on the cat, dog, sheep, and pig.

Plants.—Lessons on corn, barley, wheat, turnip, and potato; also on tea and coffee plants.

STANDARD II.

Matter.—Lessons on soluble, insoluble, and porous substances in greater detail than in Standard I. Lessons on sponge and filter; on substances adhesive, fusible, malleable, tenacious. The following metals will be taken up and described:—Copper, iron, lead, tin, zinc, gold, and silver.

Animals.—Object Lessons on cow, horse, ass, rabbit, mole, molebat.

Plants.—Elementary ideas of plant life as shown in lessons on root, stem, leaves. Special lessons on starch, cotton, rice, maize, and cereals.

STANDARD III.

Matter.—Water—its distinguishing qualities—its uses. Water in its other forms as a solid and a vapour. Water as a solvent. Mercury—the properties. Air. Coal gas and other products of coal. Powder—the manufacture and uses.

Animals.—Lessons on insects. Object Lessons on oxen, elephant, gorilla, lion, tiger, and leopard.

Plants.—A typical plant—parts of. Lessons on ash, oak, fir. Lessons on cotton, flax, hemp, indiarubber, and gutta-percha.

STANDARD IV.

Matter.—Capillary attraction. Properties of solids, liquids, and gases. Weight—pressure of liquids. Mutual actions between solids and liquids. The atmosphere—pressure and weight of. How heat affects bodies. Lessons on thermometer, barometer, common pump, syphon, siphon, and spirit-level.

Animals.—The distinguishing characteristics of fishes, amphibians, reptiles, birds, and mammals.

Plants.—More detailed knowledge of the functions of various parts of a plant. These lessons taught as far as possible from specimens in hands of children.

STANDARD V.

Matter.—A mechanical mixture as distinguished from a chemical compound. Preparation of and properties of oxygen, hydrogen, nitrogen, chlorine, and carbonic acid gas. Effects of animal and vegetable life on atmosphere. Effect of combustion. Necessity of ventilation of schoolrooms. Air—its composition. Fire and impure, hard and soft waters.

Animals.—A short account of the more common invertebrates. A more detailed knowledge of the

vertebrates than in Standard IV. Special lessons on cod, frog, snake, woodpecker, whale, and kangaroo.

Plants.—The woody stems of plants—bark, pith, cells. Special lessons on wallflower, primrose, daisy, apple, &c.

STANDARD VI.

Matter.—The lodestone. Artificial magnets. Magnetic polarity. Action of like and unlike poles on one another. Effect of breaking a magnet. Induced magnetism. Effect of magnet on soft iron, on steel. Methods of magnetising. Declination. Inclination. The mariner's compass. Electrification by friction. Two electric states—positive and negative. Action of electrified bodies on one another. Conductors. Insulators. Electroscopes. Electric machines.

Animals.—Physiology, human. Respiration. Digestion. Circulation.

Plants.—Different kinds of fruits.

Seeds and their work.

Flowerless plants.

(b) KINDERGARTEN.

Infant room. Work done according to following Scheme:—

Stage 1.	Class VII and VIII.	Paper, Stone, and Reed Thread- ing.
" 2.	" IX.	Embroidery in Coloured Wools.
" 3.	" VI.	Flower and Basket Making, Drawing and Colouring De- signs.
" 4.	" IV.	Paper-folding.
" 5.	" II and III.	Paper-paring (Boys), In- terlocking (Girls).
" 6.	" I.	Paper paring; Drawing and Colouring Flowers and Fruits.

(c) SCHEME OF INSTRUCTION IN MANUAL WORK.
MIXED SCHOOL.

Standards	Work
I. and II.	Clay-modelling, Paper-folding.
III. and IV.	Flower-making from coloured paper; Paper- work; Planning Design with coloured chalks.
V. and VI.	Cardboard work; Models of useful articles; Work of VI., more difficult models than in V.

(4)

PROGRAMME OF INSTRUCTION IN NEWHAVEN VICTORIA SCHOOL, LEITH.

WIRE WORK.

DETAILS OF COURSE followed in this Subject during Session 1896-97.

(a) Bending wire in straight lines, and right angles in one plane.

This included many letters of the alphabet, and several shapes of crosses, enclosed squares, &c. Many of these shapes were to exact size by rule measurement.

(b) Bending wire in straight lines and various angles in one plane.

This included several shapes, such as pentagons, octagons, &c. Badges and watch charms, and the more difficult letters of the alphabet, such as A, K, Y, &c.

(c) Bending curves in one plane.

This included several figures, such as S, G, &c.; several shapes of shields, single and double spirals; the letters B and U.

APPENDIX A.
LIST.

(d) Bending wire in irregular curves.
This specially included the leaves of white poplar, ivy, holly, geranium, laurel, haw, oak, beech, ash, elm.

(e) Copying several of the curved designs which are in Standard V. Freehand Drawing Cards. These figures cannot be made with one length of wire, and the several branches or parts have to be linked together.

(f) Making various articles, such as a garden-seat, chair, birdcage, basket, oval, and skull, without any model or sketch, but just according to the child's own imagination or plan.

Material.—The material used is tinned iron, bottle wire thickness, No. 20. It can be had in 7-lb. bundles, containing nearly 2,000 straight pieces, 13 inches long, for about 1s. 8d.

Tools.—The only tool used is a pair of pliers of a peculiar kind. This tool has a cutting edge to cut the wire; it has flat jaws, so that the wire can be held tightly between them, and it has also a round nose for bending sharp curves.

Educational Benefits.—The lessons are designed and arranged for developing the dexterity of the hand, and the accuracy of the eye.

The work is not mere mechanical copying, but such that the observation of the child may be brought out and trained to quickness of perception and minuteness of detail.

The imagination and reason are in all cases encouraged, and little reliance placed on mere memory.

(B.)

PROGRAMMES OF INSTRUCTION IN CHANCELLOR ROAD SCHOOL, LEITH

(a) SCHEME OF MANUAL INSTRUCTION (given to boys).

STANDARD V.

STANDARD I.

Embroidery and flower-making, basket-weaving, clay-modelling, and other kindergarten work. (Given to girls also in this Standard.)

STANDARD II.

Paper-measuring, cutting, and mounting; clay modelling.

STANDARD III.

Drawing, cutting, and covering; simple rectangular forms in cardboard, and binding edges.

STANDARD IV.

Same as above, with more advanced forms and stronger cardboard.

Woodwork—Sawing, planing, chiselling, gouging. Instruction in the use of tools and in the structure and uses of different kinds of wood.

STANDARD VI.

Woodwork—Ox-bow, mortice, tenon, and halving joints, inlaying, and models.

(b) KINDERGARTEN WORK (not in the Scheme).—Boys and Girls.

Lower Infants.—Building, jointed laths, bead threading, drawing, pricking, and embroidery.

Higher Infants.—Drawing, paper folding, pricking, and embroidery, embossing.

(c) COOKERY.

LIST OF DISHES, &c., made in Practice Lessons in the Cookery Class during Session 1896-97.

Soups	Meat	Puddings	Baking
Lentil Soup. Scotch Broth. Potato Soup. Vegetable Soup.	Beef Steak Pie. Ereter Stew. Irish Stew. Sausage Rolls. Sea Pie. Shepherd Pie.	Cottage Pudding. Marmalade Pudding. Apple Tart. Bedfordshire Pudding. Rice and Apples. Plain Rice. Sago Pudding. Rolled Apple Pudding. Fig Pudding. Queen of Puddings. Apple in Paste. Baked Apple and Sago. Cervant Damppling.	Soda Scones. Oat Cakes. Pancakes. Dropped Scones. Sponge Cakes. Cheese Cakes. Swiss Roll. Breakfast Rolls. Tun Cakes. Biscuits. London Buns. Bolly Polly.

The above dishes, &c., have all been made in Demonstration Lessons given previous to the Practice Lessons.

(d) SCHEME OF INSTRUCTION IN ELEMENTARY SCIENCE.

Infants.—Object Lessons on common objects of the schoolroom, home, street, and country.—

Lessons on colour and form.

Kindergarten work.

Lessons on familiar articles used for food and clothing.

STANDARD I.

(1.) Animal life.—External structure and habits of common animals.—

Domestic pets—cat, dog, rabbit, pigeon.

Beasts of burden—horse, donkey.

Other useful animals—ox, sheep, pig, hen, bee.

Destructive animals—rat, mouse.

(2) Plant life.—Parts of a plant. Food plants of this country.—

Roots—turnip, carrot.

Stems—potatoes.

Leaves—cabbage.

Seeds—wheat.

(3) Physics.—Lines and angles. Lessons on common objects—a candle, piece of coal, clay, glass, paper, milk, water, and salt.

In the above lessons the most characteristic properties of solids and liquids should be taught, and some of the most general properties of matter.

STANDARD II.

- (1.) **Animal life**—External characters, habits, and uses of some of the common animals of our own and other lands.

Useful animals—camel, elephant, deer, goat, duck, herring, and silkworm.
Beasts of prey—fox, wolf, lion, tiger.
Some other animals—crow, mole, worm.

- (2.) **Plant life**—General description of flower, fruit, seed.

Fruits, seeds, &c., used for food or beverages.
Fruits—plum, cherry, apple, pear, strawberry, orange, grape.
Seeds—pea, bean, coffee, cocoa.
Leaves—tea.

- (3.) **Physics**—Multiplication and division of lines, using inches. Lessons on common objects—iron, lead, piece of chalk, sugar, sponge, blotting-paper, cloth, leather, bread, india-rubber, marble, a marble, oil, soap.

In these lessons the following properties of matter should be taught—porosity, plasticity, compressibility, elasticity, &c., and further distinctions between solids and liquids.

STANDARD III.

- (1.) **Animal life**—The distinguishing characteristics of mammals, birds, reptiles, amphibians, fishes, and insects, illustrated by animals in our own country.

- (2.) **Plant life**—Structure and functions of root, stem, leaves, flowers, fruit, and seeds.

Common trees and their uses—oak, elm, beech, &c.

Plants supplying materials for textile fabrics—cotton, flax, hemp, jute.

- (3.) **Physics**—Addition, subtraction, multiplication, and division of lines, using decimetres, centimetres.

Simple lessons on air and coal-gas, as examples of gases, to show their lightness, compressibility, elasticity, &c.

Pressure as exerted by solids, liquids, and gases.

Cohesion as exhibited by solids, liquids, and gases—properties depending on it—softness, hardness, brittleness, tenacity, ductility, malleability.

More exact distinctions between solids, liquids, and gases.

STANDARD IV.

- (1.) **Physics**—Measurements of area and volume, employing both English and French measures.

Graphic representation of these.

Introduction of decimals.

Weights—English and French.

The balance—parts, method of adjusting, method of using.

Experiments in weighing.

Lever—experiments with lever, application of the results to the balance.

Comparative weights (specific gravity), using specific gravity bottle.

Comparative volumes of equal weights of liquids, using U tube.

Barometer an example of a U tube—its construction.

Graphic representation of barometric readings.

Comparative weights (specific gravity) of solids, calculated—

1st. By finding weight of water displaced—from this, volume of solid can also be calculated.

2nd. By finding weight of a given volume, and comparing this with weight of equal volume of water (1 c. c. water = 1 gramme).

3rd. By finding loss of weight in water.

- (2.) **Chemistry**—Elements and compounds.

Chemical action.

Preparation and properties of oxygen, hydrogen, and nitrogen.

STANDARD V.

- (1.) **Physics**—Effects of temperature on a liquid. Thermometer—construction, graduation, method of using, kinds. Graphic representation of temperature of room, taken daily or twice a day. Find temperature of (a) water containing melting ice, (b) mixture of ice and salt, (c) boiling water, (d) boiling water containing salts in solution.

Expansion of solids.

Expansion of liquids—peculiar behaviour of water.

Expansion of gases—construction of air thermometer.

Capacity for heat of different substances.

- (2.) **Chemistry**—Air, its chemical composition, and how it is determined both qualitatively and quantitatively. Effects of animal and vegetable life upon air.

STANDARD VI.

- (1.) **Physics**—Change of state. Solid to liquid—fusion and the absorption of heat in the change. Solution and absorption of heat during process. Solidification and re-appearance of heat on change. Different solubilities of different substances. Effects of temperature upon solubility of some substance.

Insoluble substances and filtration.

Liquid to Gas—Evaporation and absorption of heat during process. Evaporation of water by application of heat (boiling point). Show boiling points of various substances. Effects of pressure upon boiling-point.

Evaporate, (a) tap-water, (b) rain water, (c) sea water. Show and weigh residues.

Condensation—show re-appearance of heat during process.

Distillation = evaporation + condensation.

Demonstrate properties of distilled water.

- (2.) **Chemistry**—Water—its chemical composition—how determined, both volumetrically and gravimetrically. Hard and soft water—what causes hardness, and how the hardness is got rid of.

fish, and insect, illustrated by typical examples and drawings. Explanations of the essential differences between the classes.

Vegetable.—Comparison of animal with vegetable life. General structure of plants and trees, illustrated by examples.

Water.—Illustrations of the different states of water—solid, liquid, gaseous. The properties of water. Distinction between organic and inorganic, elementary and compound substances illustrated by specimens of the more common woods and metals, with an explanation of their chief properties and uses.

STANDARD IV.

Animal.—Classification. Explanations of more common habits and uses. General structure of the human body.

Vegetable.—More detailed explanations of structure, including typical specimens of woods, barks, and piths. Examination of cells. Some uses of the microscope.

Matter.—Energy. Its meaning and relation to work, illustrated by examples. Elementary physical definitions, with illustrations from mechanics. Properties of matter. Preparation of some of the ordinary gases, with an explanation of some of their simpler properties.

STANDARD V.

Physiology.—More advanced lessons in the structure of the human body. Explanations of the processes of circulation, respiration, and assimilation. Elementary laws of health.

Botany.—Food and growth of plants, and the formation of different kinds of fruit, with illustrations of their uses.

Physics.—Heat: common examples of its effects. Instruments used in experiments with heat. Nature and sources of heat. Light: sources of. Common examples of its properties, e.g., reflection, refraction, and dispersion. Description of the more common optical instruments, e.g., microscope and telescope.

STANDARD VI.

Laws of Health.—Application of some of the preceding lessons to the preservation of health, especially as regards air, water, food, and exercise. Necessity for temperance in all things. General conditions of health. More detailed explanations of special organs, and the conditions which affect their efficiency, e.g., sight, hearing, brain, &c.

Botany.—Principles of classification, with a general knowledge of the chief orders. Geographical distribution of plants and trees most useful to man. Trade and commerce arising therefrom.

Physics.—The general phenomena of magnetism. Different kinds of magnets and their uses. Elementary laws of magnetism. The mariner's compass: its construction and use. Some of the ordinary phenomena of electricity: elementary laws of. Description of some of the simpler instruments used, and a general explanation of the more common applications of electricity, e.g., to the telegraph, telephone, electric lighting, and electric motors. The scholars in this class should be expected to know the elements of dynamics, especially in their application to simple mechanical appliances.

GENERAL.

In all the classes little use should be made of textbooks, and the scholars should, as far as possible, be expected to make themselves acquainted with the objects of study, instead of only knowing their names and some of their properties. The school apparatus and museum should afford opportunities for this in so far as the more common objects are concerned, but

the scholars should be encouraged to visit public parks, gardens, museums, and other institutions, where they would be able to extend their experience. They should also be expected to be able to use their pencils freely in sketching any specimens or pieces of apparatus which may be placed before them, or in illustrating graphically any problem they are asked to solve.

By order of the School Board,

G. W. ALEXANDER, Clerk.

(2.)

ELEMENTARY DRAWING.

REGULATIONS FOR CURRENT YEAR.

Award "Excellent."—The Board, where the "Excellent." Award is received, will pay £4 to every teacher (not being a head-master), possessing the Art Master's Certificate, or an Art Teacher's Certificate, or the Elementary School Teacher's Certificate (D), or the Elementary School Teacher's Certificate (First Class), who has taught drawing to the scholars in the Standards for the whole year, and £2 to every teacher possessing the Elementary School Teacher's Certificate (Second Class), or the Second Grade Drawing Certificate, or the Provisional "D", who has taught drawing for the same period. These payments will be made only if one-half of the grant is sufficient. If it is not they will be proportionately reduced.

Award "Good."—After paying all expenses from the Drawing Grant, if one-third of the balance is sufficient to enable them to do so, the Board will, where a grant of 1s. 6d. has been earned (Award "Good"), pay £3 to every teacher (not being a head-master) possessing the Art Master's Certificate, or an Art Teacher's Certificate, or the Elementary School Teacher's Certificate (D), or the Elementary School Teacher's Certificate (First Class), who has taught drawing to the scholars in the Standards for the whole year, and £1 10s. to every other teacher possessing the Elementary School Teacher's Certificate (Second Class), or the Second Grade Drawing Certificate, or the Provisional "D", who has taught drawing for the same period. These payments will be made only if one-third of the balance is sufficient. If it is not they will be proportionately reduced.

Award "Fair."—No share of the Grant is given to the teachers whose the "Fair" Award only is received.

QUALIFICATIONS OF TEACHERS OF DRAWING.

Drawing must be taught by—

- (a.) A teacher or teachers of the school holding:—
 - (1.) The Art Master's Certificate (3rd Grade), or
 - (2.) The Art Class Teacher's Certificate (Intermediate), or
 - (3.) The Elementary School Teacher's Certificate (D), or
 - (4.) The Elementary School Teacher's Certificate (First Class), or
 - (5.) Provisional "D", or
 - (6.) The Elementary School Teacher's Certificate (Second Class), or
 - (7.) The Second Grade Drawing Certificate.
- (b.) Where the teachers, or a sufficient number of them, are not qualified, the Board, as the Science and Art Department directs, will appoint visiting masters for this branch.

(For requirements for the different certificates see "Science and Art Directory.")

* Provisional Certificate issued to teachers who have taught Drawing for at least seven years previous to 1st September 1889.

XLVIII.

DOCUMENT put in by Mr. G. W. ALEXANDER, Clerk to the School Board of Glasgow.

SCHOOL BOARD OF GLASGOW.

SCHOOL "A."

COST OF APPARATUS supplied for ELEMENTARY SCHOOLS.

1895.

	£	s.	d.
Balance (hand scales),	0	3	3
Fitzroy's barometer,	1	1	0
Lens and handle,	0	3	0
Lens and 3 glasses,	0	4	6
Two R. B. porcelain basins,	0	1	6
Pneumatic trough, 12 in. x 5 in.,	0	4	6
Bell jar, stoppered, 10 in. x 5 in.,	0	4	0
One set of 3 beakers,	0	2	0
Two Black's blowpipes,	0	1	0
U tube, 10 in.,	0	1	3
U tube, 12 in.,	0	1	1
Bottles, narrow, flat, st. 8 oz., 12,	0	5	6
Bottles, wide, flat, st. 8 oz., 12,	0	6	3
Bottles, enamel lab., HCl, HNO ₃ , H ₂ SO ₄ ,	0	6	0
One-half gross assorted cork,	0	3	3
Six cork borers,	0	3	0
R. B. crucibles and lids, 2,	0	1	6
Two Woulff's bottles, 3 each, 16 oz.,	0	3	8
One triangular file,	0	0	6
One flat file,	0	0	6
Brass forceps,	0	0	4
Two deslagating spoons,	0	2	6
Filter paper case,	0	0	5
Filter paper, 4½,	0	1	0
F. B. flasks, 3 8 oz., and 3 16 oz.,	0	2	6
Fluorescein flasks, 2 8 oz., and 2 16 oz.,	0	0	6
Wash bottles, 8 oz. and 16 oz.,	0	5	6
Three funnels, 4½ in.,	0	1	3
Three thistle funnels, 8 in.,	0	0	6
Glass rod, 1 bore, 1 yard,	0	1	0
Three lbs. glass tubing,	0	3	0
Six glass discs, 3 in.,	0	0	4½
Two books, labels,	0	1	6
Spirit lamp,	0	1	6
Davy lamp,	0	8	6
Glass jar, cylinder, 6 9 in. x 2½ in.,	0	5	6
Glass siphon and force pump,	0	7	6
Spatula,	0	0	6
Two glass retorts, 26 oz.,	0	2	4
Two double filter stands,	0	5	3
Ertort stand and rings,	0	2	6
Two test tube stands,	0	3	6
Stirring rods, 3 8 in., and 3 11 in.,	0	0	9
Syringes, 6d., 8d.,	0	1	2
Test tubes, fit stand, 6 doz.,	0	3	0
Boiling tubes, 6 6 in. x 1½ in.,	0	4	0
Two test-tube baskets,	0	1	0
Two test-tube brushes,	0	0	8
Two test-tube holders,	0	1	8
Two thermometers,	0	5	0
Two iron wire triangles,	0	0	4
Two triangular wire tripods,	0	1	4
Four rubber tubing, ½ in. bore,	0	1	10
Glass cap tubes, 1 set,	0	2	6
Six watch glasses, 5½ in.,	0	1	3
One square face iron gauze,	0	0	9
Pair crucible tongs,	0	1	0
Chamois leather,	0	2	4
Hammer, 3 in.,	0	2	3
Spirit level, 4 in.	0	2	0
Filter pump (aspirator),	0	4	0
Two books Wmms paper,	0	0	4
Two pieces platinum foil,	0	1	6
Two charcoal blocks, 2 in. x 1 in.,	0	0	4
One lb. H.C.L. bottles,	0	0	5

	£	s.	d.
One lb. HNO ₃ bottles,	0	0	7
One lb. H ₂ SO ₄ bottles,	0	0	3
One lb. NH ₄ HO bottles,	0	0	6
One lb. meth. spirits and bottle,	0	1	0
Two lbs. liquid mercury,	0	5	3
One-quarter lb. red oxide of mercury,	0	1	4
Two oz. camphor,	0	0	6
One lb. wood charcoal,	0	0	3
Four oz. white paraffin,	0	0	2
Three lbs. potassium chlorate,	0	5	0
Three lbs. manganese dioxide,	0	0	9
Two potassium pellets,	0	1	1
Roll and flower sulphur,	0	0	6
One-half ounce sodium and bottle,	0	0	6
One-quarter lb. granulated zinc,	0	0	2
One oz. phosphorus,	0	0	5
Two cakes of beeswax,	0	0	8
One book of gold leaf,	0	2	0
Short round bar of iron,	0	0	3
One yard copper wire foil,	0	0	3
One coil iron wire foil,	0	0	2
One-quarter lb. lead wire foil,	0	0	4
One-quarter lb. tin wire foil,	0	0	4

1896.

	£	s.	d.
One pair bar magnets,	0	5	0
Nine inch horse shoe magnet,	0	5	6
Six inch magnetic needle,	0	5	6
One piece magnetic iron ore,	0	1	0
Two syringes,	0	1	2
Knitting needles,	0	0	4
Two lbs. etc., glass tubing,	0	3	6
Iron filings,	0	0	4

1897

	£	s.	d.
Model of common stalk flower,	2	12	6
Model of heart and lungs,	1	19	0
Bird Cabinet,	4	17	6

Total for three years, £20 2 8½

GLASGOW, 25th October, 1897.

SCHOOL "B."

COST OF APPARATUS supplied for ELEMENTARY SCHOOLS.

1895.

	£	s.	d.
Model of tooth,	0	13	6
Model of skin,	0	13	6
Model of hand and wrist,	0	11	8
Model of peeped,	2	10	0
Specimens of flowers and fruits,	1	0	0
Two lbs. granulated zinc (commercial),	0	1	0
One lb. potass chlorate (commercial),	0	1	0
Twelve boiling tubes, 7 in. x 1½ in.,	0	2	0
Two India-rubber corks, two holes,	0	2	10
One pair of iron crucible tongs,	0	1	0
Two Woulff's bottles, 24 oz., three necks,	0	3	4
One pneumatic trough, 12 in. x 6 in.,	0	6	6
One pound meth. ether,	0	1	7
One minimum thermometer,	0	5	6
One Leyden jar,	0	1	6
Six half-oz. bottles and corks,	0	0	7
Half-ounce sodium,	0	0	9

	£	s.	d.		£	s.	d.
One pneumatic trough,	0	6	6	Fisherman,	0	2	6
Repair bellows,	0	2	3	Hospital attire,	0	2	6
One chloride of calcium tower, 14 in. x 2 in.,	0	2	6	Rainbow colour chart, 1897,	0	5	4
Six twenty-four-oz. flasks,	0	3	6	Four squares of wire gauze,	0	3	9
Two lb. black oxide of manganese,	0	0	6	One gallon H ₂ SO ₄ ,	0	1	8
Half lb. barium chloride,	0	0	6	Four small beakers,	0	2	0
Half lb. potassium binoxalate,	0	1	0	Ten carbon plates,	0	5	0
				Five zinc plates,	0	5	0
1896.				Model of flower of buttercup,	1	2	6
One fox hat,	0	5	0	Model of flower of pea,	1	2	6
One flying fish,	0	3	0	Nelson's plant life, first series cloth,	1	4	0
One heron,	0	8	6	mounted on roller,			
One parrot,	0	3	6	Nelson's natural history, 1st, 2nd, and 3rd series,	1	4	6
One duck,	0	4	0	Two carbons for H.C.L.,	0	4	6
One scurrying,	0	2	6	Decomposition apparatus,	0	1	2
One horned owl,	0	8	6	Two lb. potassium bichromate (cont.),	0	2	0
One W. & A. K's. illustrations of trees,	0	16	4	Two lb. granulated zinc,	0	2	0
Two W. & A. K's. pictures,	0	18	0	Four rubber corks, No. 5,	0	1	2
Four sets Arnold's bird pictures,	1	11	8	One lb. tin of vasoline,	0	1	6
Seven sets Arnold's wild flowers and book,	0	8	7				
Bacon's picture alphabet,	0	2	6	Total for three years, £19 7 5			
Telegraph messenger,	0	2	6				
Pencil,	0	2	6	Glasgow,			
Lifeboatman,	0	2	6	25th October, 1897			

XLIX.

DOCUMENT put in by Mr. R. CALDER, One of Her Majesty's Inspectors of Schools under the Scotch Education Department.

DUNDEE SCHOOL BOARD.

SCHEME OF SCIENCE TEACHING.

NOTE.—This Scheme is used in all the Elementary Schools of the Board.

INFANT BOYS.

Section I.—Animals.

- Backboned { Birds: e.g. Swallow, robin.
 { Beasts: e.g. Cow, cat.
 { Fishes: e.g. Herring, skate.

Without a backbone: e.g. Snail, earthworm

Section II.—Plants.

1. A general lesson on a plant.
2. Any familiar tree.
3. Any two familiar flowers.

Section III.—Common Things

- Vegetable: e.g. Cotton, tea plant, sugar-cane.
 Animal: e.g. Silk, wool.
 Mineral: e.g. Coal, iron.

N.B.—Not less than eighteen lessons to be taught in the Upper, and not less than nine to the Lower Division.

STANDARD I.

1. Animals.—Cat, dog, sheep, cow, pig, hen, herring.
2. Plants.—Parts of a plant—root, stem, branches, buds, leaves—a tree—uses of plants—food, clothing, fuel.
3. Common Things.—Tea, sugar, bread, milk, butter, cheese, common salt—wool.

STANDARD II.

1. Animals.—Horse, camel, elephant, lion, ostrich, whale.
2. Plants.—Root, stem, branches, bud, leaves, flower, fruit, seeds—uses more fully than in Standard I.
3. Common Things.—Coffee, oats, wheat, maize, rice, potato—cotton.
4. Mineral.—Coal.

STANDARD III.

1. Animals.—The following as examples of beast,

bird, fish, insect, reptile.—Beaver—eagle—shark, salmon—bee, silk-worm—serpent, frog.

2. Plants.—Conditions of plant life—sunlight, air, soil, water.

3. Matter.—Its three interchangeable states, as shown in water as a solid, a liquid, and a gas.

Properties.—Diffusibility, porosity, compressibility.

4. Industries.—Flax and jute.

STANDARD IV.

1. Matter.—Properties of matter, same as in Standard III, with elasticity and inextensibility.

Distinction between organic and inorganic matter—element and compound—compound and mixture.

2. Water.—Composition—uses to animals and plants—impurities and their removal—hardness and softness.

3. Air.—Composition—uses to animals and plants—impurities—necessity for ventilation of houses—preparation and properties of oxygen, hydrogen, nitrogen, and carbonic acid gas.

STANDARD V.

1. Matter.—Properties more fully than in Standard IV.

2. Heat.—What it is—how it affects (a) solids, (b) liquids, and (c) gases.

Simple pendulum—thermometer—fire-balloon. Expansion in freezing, why pipes burst, and when. Radiation, convection, and conduction. Heating and ventilation of houses.

3. Atmospheric Pressure.—The barometer, the syringe, the common pump, and the force pump.

STANDARD VI.

1. Force, inertia, momentum, and gravitation.

2. Atmospheric and Liquid Pressure.—The diving-bell, siphon, fire-engine, and hydraulic press.

3. Water finds its own level.—Fountains, artesian wells, water supply of towns, capillary attraction.

4. Mechanical Powers.—Lever, pulley.

5. Causes of winds and ocean currents.

APPENDIX A.

I.

DOCUMENT put in by Mr. STEPHEN FITZPATRICK, Professor of Method, &c., St. Patrick's Training College, Drumcondra.

PROGRAMME OF EXAMINATION FOR ENTRANCE TO TRAINING COLLEGES.

Reading.—As indicated in Column 2 (Programme for Admission to Training Colleges, see page 14).

Penmanship.—As indicated in Column 2.

Spelling and Punctuation.—As indicated in Column 2.

Grammar.—As indicated in Column 1.

Composition.—As indicated in Column 1.

Geography.—Elementary General Geography (Political and Descriptive).

To draw an outline map of Great Britain and Ireland, or a certain portion of either, showing the principal mountains and rivers.

Elements of Mathematical Geography.

English Literature.—As in Column 1.

Arithmetic.—As in Column 1.

Algebra.—As in Column 1.

Geometry.—As in Column 2.

Mensuration.—As in Column 2.

Book-keeping.—As in Column 1.

Agriculture.—As in Column 1.

Theory of Method.—Joyce's Handbook.

Practice of Teaching.—As in Column 1.

Drawing.—Freehand and easy problems in Practical Geometry.

All monitors and pupil teachers, at the termination of their respective courses, should have a very fair grasp of this Programme.

In training their knowledge of it could be perfected, and judiciously extended.

Sufficient time would then be afforded for Psychology, for Drawing, for Music, for Hand and Eye Training, for Agriculture or Horticulture, and for Natural Science.

STEPHEN FITZPATRICK,

Professor of Method

II.

DOCUMENTS put in by Professor PITTON, LL.B., Marlborough-street Training College, Dublin.

- (1) Course of Elementary Drawing for Junior Classes, recommended for immediate adoption in National Schools.
- (2) Course of Object Lessons and Elementary Science.
- (3) Course of Lessons in Composition and Analysis of Sentences, based upon the Object Lessons recommended for National School Programmes.
- (4) Suggestions for the Teaching of Practical Agriculture in National Schools.

(1.)

COURSE OF ELEMENTARY DRAWING FOR JUNIOR CLASSES (Infants, I., II., III.) IN NATIONAL SCHOOLS.

Class.	(1) Mechanical Drawing.	(2) Freehand Drawing.
Infants.	Drawing with a ruler lines of different lengths. (Chequered slate or paper).	As under.
I. Class.	Drawing with a ruler straight lines in various positions: horizontal, perpendicular, vertical, oblique, and parallel lines. Copying simple right-lined figures. (Slate or paper).	As under.
II. Class.	Drawing with a ruler simple geometrical figures: square, oblong, and their diagonals, combination of such lines and figures. Making angles and pointing out the angles on the figures drawn. To understand the terms used. (Paper).	As under.
III. Class.	Drawing with a ($\frac{1}{4}$ in) ruler marked in inches, simple geometrical figures, and right-lined patterns of given dimensions.	As under.

In the Junior Classes Freehand Drawing from the fist should almost invariably be done from large examples on the blackboard, or chart suspended before the class. The figures for Freehand Drawing may be singular or those drawn with the ruler by the several classes.

For examination purposes each class may be divided into two parts: one half working with ruler and the other without it.

N.B.—An Illustrated Syllabus in Drawing should be used.

(2)

COURSE OF OBJECT LESSONS AND ELEMENTARY SCIENCE.

Class	Subjects	
Infants, I.,	Kindergarten lessons; Domestic animals—cat, dog; Coloured Balls—tags, &c.	In small schools, classes to be divided into junior and senior. The school to be taught in two divisions. Thirty lessons from these groups.]
II., III.	Animals—horse, cow, sheep; Flowers—rose, daisy, linchell; Best known fruits—apple, orange; Best known vegetables—potatoes, turnips; Common things—salt, flour, &c.	
IV.,	More advanced lessons on similar subjects—Manufactures.	
V.,	Best known weights and measures.	In small schools, the senior division to receive 30 lessons, viz.—20 object lessons, and 10 on elementary science.
V.,	General course of elementary science.	
VI.,	Weights and measures in common use.	
VI., VII.,	Study of one science where possible—e.g. in large schools with adequate teaching staff.	

The series of lessons for each class, group of classes, or division of the school, to be drawn up by the teacher at the beginning of the results year and submitted to the Inspector for his approval. Adequate materials and apparatus to be provided for each lesson.

(3)

COURSE OF LESSONS IN COMPOSITION AND ANALYSIS OF SENTENCES, based upon these OBJECT LESSONS.

Infants.	
I.	Forming sentences orally Answering orally in complete sentences
II.	
III.	Forming oral statements about the objects, and then writing these statements on paper. (Attention paid to capital letters and full stops, and to the two parts of the sentence) N.B. Discontinue the present course of Grammar in III. Class
IV.	Writing down a number of short statements about any object. (To understand the enlargement of the subject and predicate by the adjective and adverb). Writing short easy letter.
V.	A brief essay, a little more advanced than that required in the IV. Class, on any object on which an object lesson has been taught. (To analyse the sentences fairly). Writing a short letter—complete with envelope, address.
VI.	A simple essay on any object lesson or elementary science lesson taught in the class.—A short letter as in V.
VI.,	Analysis of simple and compound sentences used.
VI.,	A short essay—a letter—substance of a story (in pupils' own words)—easy paraphrasing
VI.,	
VI.,	Analysis of complex sentences

(4.)

SUGGESTIONS for the TEACHING OF PRACTICAL AGRICULTURE in NATIONAL SCHOOLS.

IV. Class,	Abolish the use of the Agricultural Reading Books in Fourth Class, and substitute a series of Object Lessons dealing with cottage gardening and flower gardening. Collections of flowers, fruit, and vegetables to be kept in the school, and renewed from time to time.
V.,	Reimagination of class to be based upon the specimens so collected.
VI.,	School gardens—or the teachers' private gardens—should be utilized in every instance. Pupils to work in garden one hour per week, or two hours' on one day per week.
VI.,	The half holiday arrangement would meet the difficulty in the case of small schools with only one teacher.
VI.,	In town schools where agriculture is not taught to pupils, the introduction of Hand and Eye training in some form should be delayed only until the teachers have been trained to teach the subject.
VI.,	Card-board modelling appears to me to be the form of Hand and Eye Training most suitable for our National Schools. Woodwork must be taught outside the ordinary school hours.
VI.,	Until the application of drawing can be taught in this way, I would suggest that, where possible, easy model drawing should be taught to Fourth Class. This would fill up the gap that must exist for a time in the Manual Training of the Fourth Class.

N.B.—½ to 2 hours at most to be devoted to manual training or practical gardening per week.

APPENDIX A
LII.

LII.

DOCUMENT put in by Professor T. H. TEEGAN, Marlborough-street Training College, Dublin.

MEMORANDUM,

Showing the time allotted each week to the various subjects by the Professors in Marlborough-street Training College, Dublin.

Arithmetic and Algebra,	Eight hours.
Book-keeping,	Two "
Mechanical Physics,	Two "
Experimental Physics,	Two "
Science and Art of Education,	Five "
Criticism and Teaching,	Three "
English Literature,	Four "
" Grammar,	Three "
" Composition and Spelling,	Three "
Geometry and Mensuration,	Three "
Trigonometry,	Two "
Geography—Mathematical, Physical, and Commercial,	Five "

APPENDIX A
LIII.

LIII.

DOCUMENTS put in by Messrs. M. S. SEYMOUR (Secretary); ALEXANDER HAMILTON, M.A., and E. DOWNING (Chiefs of Inspection); Office of National Education, Dublin.

MEMORANDUM

DISTRIBUTION OF SCHOOL TIME in National Schools.

(a) The usual distribution of School Time in National Schools is somewhat as follows:—

BOYS (Senior Classes).		GIRLS (Senior Classes).	
	Hours per Week		Hours per Week
Reading,	2½	Reading,	2½
Writing,	2½	Writing,	2½
Arithmetic,	6	Arithmetic,	5½
Spelling (Dictation, &c.),	1½	Spelling (Dictation, &c.),	1½
Grammar,	1½	Grammar,	1½
Geography,	1½	Geography,	1½
Agriculture,	2½	Needlework,	5
Hearing Home Lessons,	2½	Hearing Home Lessons,	2½
Some extra subject,	2		
Total,	29½	Total,	29½

(b) Statement of amount of time which ought, in our opinion, to be devoted to each of the ordinary class subjects per week:—

	Hours.
Reading and Explanation,	5
Writing, inclusive of Transcription,	2½
Dictation, and Letters,	2½
Arithmetic,	5
Grammar,	1½
Geography,	1
Agriculture or Bookkeeping (Boys),	1½
Manual Training (Boys),	1½
Needlework (Girls),	5
Vocal Music,	1
Drawing,	1
Hearing of Home Lessons,	2½
Total time for each sex,	22½

i.e., 4½ hours each day of five.

M. S. SEYMOUR, Secretary.

Office of National Education,
Dublin, 2nd December, 1897.A. HAMILTON, } Chiefs of
E. DOWNING, } Inspection.

LIV.

DOCUMENT put in by Mr. E. J. MURRAY, Head Master, Model School, Cork.

MR. JORANSEN.

Suggestions for the extension of Kindergarten instruction in National Schools in the form of practical elementary physical science, Object Lessons in Fourth Class and in Fifth Class (1st stage).

Under existing rules provision is made for the kindergarten instruction of the classes up to and including Third Class. In developing this instruction so as to draw up a suitable programme for Fourth Class and Fifth Class (1st stage), I am of opinion that the trained intelligence of the child should be no longer occupied with the artificial combinations of the Kindergarten, but should be exercised on the natural objects around him. With this idea I have selected a few elementary experiments in physical science bearing on common things and simple facts, as examples of what may be done in this direction for these classes. I have also presumed to suggest an extension of the working course in drawing, and the introduction of practical measurements and easy calculations in arithmetical.

The Commissioners may remember that I regretted having no practical experience of *Spied* or similar manual training, and consequently could not offer any suggestion thereon.

FOURTH CLASS.

The school cabinet should contain specimens of some of the vegetable and mineral substances used in the manufacture of things in common use, such as linen, hempen and cotton goods, paper, cork, coconut, india-rubber, asbestos, graphite, charcoal, salt, marble, sugar, soap, pumice, potter's clay, &c., &c., and a small set of chemical apparatus, such as Wolff's bottle, retort, retort stand, some test tubes, beakers, &c., and a set of scales and weights.

Example of a lesson.

I. Teacher gets a pupil to unravel a piece of asbestos packing, another to separate some of the fibres from the hard mineral with his penknife, a third to obtain some as used in the gas stove, others to procure unspun cotton or linen or woollen thread, and then to get all the different kinds held in the flame of spirit lamp or gas till they have been for some time at a white heat. Each of these is then examined by the pupils, and the result seen. The teacher follows this with a lesson on the uses of asbestos, &c.

II. Teacher directs a pupil how to prepare some oxygen. Having done this, he gets others to place in the jars containing the oxygen, pieces of glowing charcoal, graphite, or match. He explains what is taking place, directs others to pour this new gas into smaller beakers. This being done, he directs that some lime-water be poured into one of the beakers holding this new gas, while another pupil is blowing into a different beaker of lime-water through a glass tube. Result compared and lesson on carbon, carbonic acid, the human breath, danger of overcrowding, of stopping chimney flues in bedrooms, &c.

III. Another lesson on carbonic acid produced by action of hydrochloric acid on marble, chalk, shells, &c. How to test lime in a soil—where the lime of the limestone originally came from—shells shown in the solid limestone—a fossil marble shown—shell of egg—Hens seeking lime—necessity for lime in the food of all animals.

IV. A piece of coal is broken fine and placed in the bowl of a clay pipe and heated, and the gas escaping from the stem ignited, coal gas thus shown—compared with the gas from the centre cone of candle flame carried through a glass tube. Hydrogen gas made, and combustion similarly produced. Lesson on coke, coal, peat, tallow, wax, &c.

In a similar manner a lesson may be given on rock-salt, saltness of ocean, &c.; on sugar, showing the

carbon by action of sulphuric acid. Mixing of oil and strong solution of soda to form a soap. Floating of pumice, cork, &c., and cause of the poverty of pumice, corks, &c. Faraday's celebrated experiment with salt and saline solution, hence lesson on capillary attraction. Filling of fine wire gauze cylinder with water, and lesson on the phenomenon, &c., &c.

For rural schools the lessons may refer more to plant life, and the cabinet should contain specimens of seeds, herbs, &c., for exhibition as well as for dissection and sowing.

The pupils should be directed to open the seeds and bulbs themselves, and examine the embryo plant. They should be made to sow specimens, either in pots or beds in the school grounds, if such there be, and to note some of these at different intervals to observe the progress of growth. Specimens of plants should be placed in bottles of water containing different mineral constituents in solution, to show the effect produced by the presence of these minerals on the development of the plants. Different classes of soils should be procured for different pots to test their fertility and suitability to the plants placed in them. Again the action of light and heat may be exemplified by placing the pots in different positions around the buildings, thereby showing the effect of aspect. Seeds should also be sown at different depths to show why certain depths are recommended for certain seeds, &c.

The children may, also, be taught how to press, graft, slip, bark, &c., and have the reasons explained why certain stocks are selected on which to graft particular scions; how to ascertain the percentage of organic and inorganic matter in a soil, and to compare the results obtained by the individual pupils who have made the tests.

The Drawing Programme for Fourth Class at present laid down by Commissioners of National Education might be extended by the addition of some "drawing to scale" of an easy and simple kind.

A little easy practical measurements could be taught by the aid of the chequered blackboard, and areas of rectilinear figures, such as square, rectangle, rhombus, &c.

The first measurements should be made of figures on the blackboard, then of larger figures on school-room floor, and this extended to school play ground or a neighbouring field. The children should in all cases be obliged to make the calculations from measurements made by one of themselves.

These calculations are quite within the programme in arithmetic for this class.

FIFTH CLASS (1st Stage).

The physical science teaching proper may be said to begin here, and I am inclined to recommend that it be confined to one special class of natural phenomena, and for this purpose Heat appears to me to be the easiest with which to begin a systematic course, while, at the same time, it is a subject with the phenomena of which the children are already most intimately acquainted. It is easily made interesting as well as instructive, and excites their inquisitiveness.

The lessons should be all accompanied by some experimental work in which the children assist as much as possible.

They will often be found capable of contriving simple apparatus, but in any case the apparatus necessary is not costly.

T

APPENDIX A.
LV.

SUGGESTED COURSE OF LESSONS.

1. Producing heat by rubbing—metal on wood—wood on wood—metal on metal—heating of axes. Use of lubricants. The lucifer match, &c.
2. Heating by hammering, crushing, or pressing—fire syringe—percussion cap, &c.
3. Chemical combination—Water on fire—water with sulphuric acid—burning of a piece of coal, wood, tallow, oil, wax, &c.—nature of change taking place.
4. Flame—Action of gases on flame—safety lamp—extinguishers, fire-blowers, &c.
5. Chimneys for lamps—chimney stacks—contraction of gases—smoky chimneys—effect of sunlight on smouldering fire in grate—household drawing down blinds when lighting parlor fire, &c.
6. Soot, smoke, charcoal, cinders, greenwood, kindling wood, &c.
7. Position of fireplace in room, setting of grates, use of firebricks, &c.
8. Expansion due to heat—utility to wheelwrights, coopers, &c.—abnormal effects on large metal bridges due to expansion and contraction, &c.
9. Thermometers and their construction, mercury, alcohol, air, and differential.
10. Change of solids into liquids—Behaviour of certain solids during change—ice, iron, metal castings, &c.
11. Changing of liquid into gas—Boiling—different temperatures at which this change takes place in different liquids, and conditions under which the same liquid will boil at different temperatures.
12. Latent heat.

13. Cooling, condensation, dew, clouds, mists, fogs.
 14. Distillation, rain, snow, &c.
 15. Effects of heat and cold on plant life.
 16. Effects of successive freezing and thawing on walls, rocks, banks of earth, sides of mountain, ski houses, &c.
 17. How heat is conveyed by solids, by liquids, by gases. How conveyed through a vacuum.
 18. Heat from luminous bodies, non-luminous. Effects of hot-beds, greenhouses, &c.
 19. Clothing—Substances most suitable for wear at different seasons—clothing of animals and variation in it in animals of the same class inhabiting different climates.
 20. Houses—Lining of walls—double outer walls with air space between—snowshoes of Esquimaux—carpeting, &c.
- The Drawing Programme for this class is at present very curve-lined objects from the flat, and to this may be added more advanced drawing to scale than that suggested for Fourth Class, or easy problems in practical geometry.
- The measurement work recommended for Fourth Class may be extended here to the simple solids, both surface measurements and solid contents being made out.
- In the more advanced classes similar courses may be designed. Practical mechanics would form a nice course for Fifth Class (2nd Stage), to be followed by hydrostatics in Sixth Class, and electricity and magnetism or light, in the years following.

APPENDIX A.
LV.

LV.

DOCUMENT put in by HERR OTTO SALOMON, Director of the Sloyd Seminars, NÅÅ, Sweden.

Note by Secretary.—The following is a copy of a letter addressed to HERR SALOMON, asking for his criticism on some of the Evidence taken by the Commission.—

COMMISSION ON MANUAL AND PRACTICAL INSTRUCTION,
DUBLIN,
Sept. 27, 1897.

Sir,—I am directed by the Commissioners on Manual and Practical Instruction in Irish Primary Schools, to read you a copy of the Minutes of the Evidence taken by them during their recent visit to England.

As you will see from the Index to the volume, a considerable amount of evidence was taken with reference to Sloyd, and the Commissioners would esteem it a favour if you would assist them by your criticism on this evidence.

I am also directed to send you a proof copy of some evidence that was taken in Ireland, and to invite your comment thereon.

I have the honour to be,

Sr,
Your obedient servant
J. D. DALY,
Secretary.

HERR OTTO SALOMON,
NÅÅ,
Fjelds Station,
Sweden.

The following is a copy of HERR SALOMON'S reply to the foregoing letter:—

NÅÅ,
Sweden,
Nov. 15th, 1897

Mr J. D. DALY,

Secretary of the Commission on Manual Instruction.

My Dear Sir,—With reference to your favour of the 27th September, allow me to state that I would gladly have sent a prompt reply to the same had it not been that it was delivered when I was abroad. I will most cheerfully accede

to the request contained therein, and in accordance therewith I read some remarks to the officials of Sloyd as contained in the evidence which you so kindly forwarded to me.

Allow me to express my sincere thanks for the same, and to state that some of the mistakes incurred by the witnesses' testimony have been due to the fact that they never investigated "Sloyd" as practised in Sweden.

Yours truly,
OTTO SALOMON

MEMORANDUM by HERR SALOMON on some of the Evidence taken by the Commission.

(Question 10,701.)

I think it is a great mistake, when the witness says—"It is not taught in connection with drawing, which, I think, is a great mistake." If the speaker had known Sweden with a visit, he would have seen that not alone at NÅÅ is drawing taught in connection with Sloyd, but that this is also the case in all the better schools of our country, where Sloyd courses are

pursued. In the Training College this is especially the fact.

(Questions 10,702-3.)

Objections to the use of Sand-paper.—Everything can be used and abused. There is no doubt, for instance, that the use of sand is something good and necessary; but there is also no doubt that it depends upon the quantity and the quality

of food that we take, whether its use would be beneficial or not. Therefore, no one will deny that we can eat no more than that instead of benefiting the health we will injure it. No reasonable man would, therefore, argue that it follows, as a logical conclusion, that we should not eat at all, and, in my opinion, the case with reference to the use and abuse of sand-paper is a parallel one.

In this case, as well as in all other educational matters, everything depends on the teacher. Even as he can either teach the children to read mechanically or with intelligence, so he can teach his pupils to use the sand-paper with judgment, and at the proper time. According to my opinion, the sand-paper is to be looked upon as a tool which is to be used in the work of training. From an educational point of view, and especially from that point of view with regard to the development of the intellectual sense, it is of the greatest importance to teach the children to do neatly-finished work; hence the sand-paper, in many cases, will prove indispensable.

I know, by a long experience, that there are many teachers who object theoretically to the use of sand-paper, but who have no objection to its practical use.

Given the case of two teachers in any school, who each permit the use of sand-paper—the one avowedly, but the other secretly,—I am not at all in doubt as to which of the two is the true to the best educational principles.

Objections to "Round Work."—What I, and many with me, will advocate is that the round work is modelling in wood, and will, to a great extent, not only develop a sense of form, but at the same time a skillfulness of the hand. I admit that modelling in clay will partly give the same results. I think, however, that modelling in clay belongs not to this same standard, but either to a lower or to a much higher one—viz., either it must be executed by very small children in the Kindergarten and Infants' department, or by adults in Technical Schools of Art. Indoubtedly the modelling in wood will accomplish what the modelling in clay can never effect—viz., the execution of useful things.

With regard to the point of introduction at too early a stage, I will take it for granted that the witness means "too early in the course," and not too early as to the age. In reply to this, let me state that the round work, or, as we call it, the "curve model" consists of quite a different class of work from the "rectangular model." The first is the freehand drawing in wood, the second the mechanical drawing. The latter branch is but little calculated to prepare for the former, but is a separate and entirely different class of work. Hence there could be nothing gained by trying to make it a preparatory step before "round work." On the other hand, "round work," just exactly like freehand drawing, has the advantage (and must, therefore, be introduced early) of educating the hand to skill, and training the eye in its perception of form and exactness; and, in this respect, it will make the rectangular work so much more satisfactory.

Experience has shown us that artisans, such as carpenters and cabinet makers, even if they have used the made tools for several years, do not on this account make the round work better than the beginners. It has also shown me that persons who have executed the real round work have been more apt in the execution of the rectangular models.

(Question 4846.)

The witness says (4846): "We are too apt to think that Sweden is the birthplace of manual instruction, instead of giving to the French people the credit which belongs to them."

I scarcely can think that he can include in this statement those teachers who have studied the Sloyd system in Sweden, because this argument has never

been claimed here, either in the lectures or in any published literature on the subject. See—

I. The Theory of Educational Sloyd.—Chap. XV., by Otto Salomon, London edition.

II. Address to National Union of Teachers, delivered April, 8th, 1890, entitled, Manual Training.

It is impossible for me to surmise upon what grounds the gentleman speaking would rate France as the birthplace of manual training. The first real manual training school in France is that founded in 1873 by Monsieur Sabier, at Rue Tournesart, in Paris; this was the pioneer till 1889, when, according to law, manual work was introduced more generally into the schools. If he should give special credit to any one country as the "birthplace," it ought to be to Finland. (Manual training in the primary and elementary schools.) Finally, I would add, that "France is probably not the only nation in the world, &c.," because this class of instruction has been compulsory in Finland since 1866, and since 1889, also in Norway. As I have recently visited Paris, I have had a fitting opportunity of seeing how the work is there conducted, and thus I can hardly understand how the witness can sympathise with their methods of work. For my part, I wish the Irish elementary schools a smooth fuller progress in educational method than the French ones have made up to this time.

(Question 4851.)

I have observed that the question (4851) in this paragraph is put thus:—"In the Swedish Sloyd object is to work out models." It will scarcely be necessary for me to draw the attention of the honorable Commissioners to the fact that this is not the case. Without any specific interpretation on my part, they will all know that the real object of the Swedish Sloyd is to develop the pupils physically, mentally, and morally.

It has always been one of the principles of the Swedish Sloyd that too chief stress has to be laid, not upon the objects made, but the *makers* of them, that the models are only the incidental means towards accomplishing the educational style development.

(Question 4853.)

I think it would not be very difficult for me to contradict the witness's statement (4853), as to the faulty sequence in the drawing course pursued at Naas, if I only knew to which particular "sequence" the worthy gentleman refers. The facts, so far as to the present no such order of following has ever been fixed. The whole matter is an optional one with the teacher, who judges solely as to the student's ability in drawing.

To further quote his words, "many of the models are quite unsuitable to the boys" (4853). I hope he does not mean to the Swedish boys, but that all Swedish models are not applicable to the boys who frequent the London school. I can only find it deplorable if English teachers have selected models which are of no practical use. These teachers have not taught according to Sloyd principles; they have only taught the making of the models used at Naas. When the London boy says:—"I won't make a spoon. I can purchase it for one penny," he is perhaps correct in the latter clause of the statement. The spoon is the fifteenth step according to our method. The fifteenth step, according to the witness, is "a nutted joint showing square shoulders." I am anxious to know the market value of the last article.

(Question 4856.)

I cannot agree with the witness in the conclusion (4856). If it is the question of arranging a method in drawing, we have of course to work upon the basis of proceeding from the easy to the difficult step in drawing; but if it is the question of arranging a method of working in wood, we have to proceed upon the basis of what is easy or difficult to execute in the given material. If these steps in drawing and in

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wood-execution are parallel, so much the better; but if the teaching of drawing is the primary object—then manual work must be pushed aside. If on the contrary, manual training is the chief object, then its methodical arrangement must take the precedence, and in view of other considerations, drawing included, "be second to none."

(Question 4877.)

The witness commits a slight mistake in saying "individual teaching is adopted all through Sweden and Denmark" (4877). This is the fact in regard to the country named first; but in the latter, they still held to the old standpoint, that class teaching may be followed for manual work. As a fact, manual work in Denmark has been introduced into comparatively few schools.

(Question 4912.)

It does not surprise me in the least to hear that pupils of the witness had a "number of cuts," since they were allowed to cut against the thumb and against the chest (4912). Perhaps the Swedish knife was used, but certainly not the Swedish method of using it.

With reference to the sharpening of this tool we admit that it is indeed difficult to accomplish satisfactorily, but experience has shown us that it is not too difficult for the children, if they are once taught properly. This task should also find its proper place in the methodical arrangement, hence no one would for a moment advocate beginning with the sharpening of the knife.

OTTO SALOMON.

APPENDIX A.
LVI

LVI.

RESOLUTION ON AGRICULTURAL TEACHING IN NATIONAL SCHOOLS.

Office of National Education,
Dublin,

11th December, 1897.

Society, Ltd., copy of which Resolution has been forwarded by that Society for the information of this Board.

I am, Sir,

Your obedient servant.

J. C. TAYLOR, Secretary.

J. D. Daly, Esq., Secretary,
Manual Instruction Committee,
Dublin.

SIR,—I am directed to forward herewith, for the information of the Manual Instruction Commission, copy of a Resolution pertaining to Agricultural Teaching in Elementary Schools, being one of a series of Resolutions to the Irish Government adopted at a "Conference of Delegates" under the auspices of the Irish Agricultural Organization

[Enclosure referred to in above letter.]

AGRICULTURAL TEACHING IN NATIONAL SCHOOLS.

"That, inasmuch as the present system of teaching agriculture from class-books, which are but very indifferently illustrated, and, therefore, ill-adapted to give a correct idea of objects—animal, vegetable, or machinery—treated of in the text, this Conference begs to draw the attention of the

Government to the urgent necessity of providing funds, to be administered by the Conference of National Education, for the purpose of acquiring lands to be used as experimental plots, or supplying, gratis, to all rural National Schools colored charts illustrating different farm animals, crops, crosses, weeds, agricultural machinery, as well as small instruments, or covers containing different varieties of seeds, specimens of rocks, &c."

[NOTE.—The above Resolution is one of the several submitted to the Irish Government by the Irish Agricultural Organization Society, who have been good enough to furnish copy of the series to the Board of National Education.]

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LVII.

MEMORANDUM.

Proceedings of the Commissioners in Sweden.

The Commissioners present on each occasion were the Right Hon. the Earl of BELMORE (Chairman), Rev. Dr. EVANS, and Mr. J. STOUTHERN.

Sunday, June 5.—The Commissioners arrived at Gothenburg from England. In the afternoon, in company with Mr. Conrad Duff, they called upon, and received explanations from, Herr Hallén, Sloyd Superintendent, as to the provision for Sloyd instruction in the public school of Gothenburg, and arranged for their visit, on Tuesday next, to the Sandals School. They also examined a collection of models in the office.

Monday, June 7.—The Commissioners visited the Sloyd Seminarium at Näsä, and inspected workshops and collections of models. Being Whit-Monday, no classes were at work. Were advised by Herr Salomon as to how best to accomplish the object of the Commission in visiting Sweden.

Tuesday, June 8.—The Commissioners visited the Falk School at Trällhatten. Received information as to the working of the Sloyd classes there from the

Pastor (President of School Committee) and from the teachers. Being vacation time, the children were not present. In the afternoon the Commissioners visited Sandals School, Gothenburg, a school of 2,000 pupils. They saw several classes at work at wood Sloyd. They observed the arrangements for teaching, and received information from the teachers as to the course pursued. The teachers here were artisans who had received a course of instruction at Näsä. The first two models are made exclusively by the knife, then the plane and saw are introduced. The models are made from drawings copied on the wood from printed drawings. Half the models are sold, and half become the property of the pupils. All the boys take wood Sloyd.

Saw a class of 11 boys at work on metal Sloyd. The class is carried on in a room at the basement of the school. This room is fitted with smith's forge and anvil, and has two large tables with vice for

Sloyd. The tools are neatly arranged on tripod stands. About one-third of the boys take metal Sloyd.

Wednesday, June 2.—The Commissioners visited the Sloyd Station at Näs. They saw large classes of students at work, male and female students in separate rooms. The principles of the system were explained, and the succession of models shown and described. The method of "marking" the value of the students' work was also explained. A class was seen receiving instruction in gymnastics from a lady teacher. A method of instructing the teachers in the method of school games has lately been introduced at Näs, and was seen in operation.

Thenceforward the evidence of Herr Salomon was taken at length, as reported elsewhere.*

Thenceafter a visit was made to the Folk School, at Näs. This is a rural school, with 95 children in attendance in the upper division, and 47 in the lower. As there is only one teacher for the upper division it is arranged that the 95 children in attendance come in two sections on alternate days. Sloyd is taken after school hours. It is taught to 33 boys in two divisions. Each boy receives four hours' instruction in Sloyd per week. There is a separate room for Sloyd, with five benches. But this separate room is a comparatively recent addition. At first the children were taught Sloyd in the school-room. There was no receptacle for tools attached to the bench, but all tools were kept in a cupboard.

Received information from Herr Karl Tärnl as to Sloyd in Rusten—reported elsewhere.†

H. B. M. Cassel in Gothenburg, Mr. Duff accompanied the Commissioners in their visits to the foreign schools in Gothenburg and neighbourhood, and gave them most valuable assistance in pursuing their inquiries.

Thursday, June 10.—The Commissioners visited the Sloyd section of the Arts and Industries' Exhibition, Stockholm. This section contained exhibits of "Hus-Sloyd," arts and crafts from almost all the different "lan" (counties) of Sweden. Alongside this exhibition of "Hus-Sloyd" there was in most cases a collection representative of the school Sloyd of the district. In many cases the school models were identical with those of the Näs series; in others there were modifications, but the principles of Näs Sloyd seemed to be generally recognised. There were also representative exhibits of school Sloyd from Norway and Russia.

A model country school, with teacher's house (fall use), erected in the grounds of the Exhibition, was fitted with a completely equipped "Sloyd-sal," showing benches, tools, models, and drawings.

In the afternoon a visit was made to Kungsholmen School in the company of Dr. Bergman, Chief Inspector of Schools in Stockholm. This is the school of the "parish," with over 2,000 children in the central building, besides classes in connection in separate buildings. New first rural Sloyd carried on in a room on the basement floor. This room is furnished with benches and vices to accommodate 80 boys (two classes). The equipment of the room included, also, files and awls, several drilling machines, and a small gas engine. One class of about 30 boys was present, and was being taught by one teacher with an assistant. A teacher without assistance is supposed only to take about 20 pupils. The order and development of the models and the method of carrying on the work were explained.

In wood Sloyd two classes were seen at work in different rooms. Each teacher takes about 20 pupils. The work is conducted, as explained by Dr. Bergman, on Näs principles, but as regard as led to the home

circumstances of the children, the actual models made are considerably different. The models made become the property of the children. No teacher aids in the work, but only directs. Every teacher of Sloyd is a "certificated" teacher, and is engaged in teaching other subjects from 8 till 1, with three intervals of 10 minutes and one of 30 minutes. He returns to teach Sloyd for two hours in the afternoon or evening, as may be, and for that receives extra pay. The attendance of pupils in the afternoon or evening is voluntary, but they seldom fail to return.

A class of 20 boys was also seen at "papp" Sloyd (cardboard work) under a female teacher. The drawing in this case is made directly on the cardboard.

A class of 35 girls was seen at needlework. The method of teaching needlework, called women's Sloyd, in the Stockholm schools is uniform, and was more fully explained on the following day by Fr. Lundin, the director of needlework.

In all the Sloyd classes, the practice is to constitute the class half of beginners and half of more advanced pupils. Each pupil advances according to his capacity, and any approach to class-instruction is on principle avoided.

The general gradation of Sloyd work in Stockholm is as follows:—

From 6 years of age to 10, knitting and sewing are taught to boys and girls alike.

At 10, the boys drop needlework, and up to the average age of 11½ receive instruction in "papp" Sloyd (cardboard work).

From 11½ to 13, they are taught woodwork. (It should be said that the age for beginning woodwork was after words found to be much later in Stockholm than in almost any other part of Sweden.)

In four schools, boys who have gone through a sufficient course of woodwork, receive instruction in metal work.

Each boy receives three lessons in Sloyd per week, amounting in the aggregate to seven hours.

Friday, June 11.—The Commissioners visited a country school at Gäddå Upsala. The school consists of about 60 children, taught by one teacher—in addition to the "Sloyd-sal" taught by a female teacher.

The hours are from 7 in summer and 9 in winter to 11 and 1, respectively, after which master and pupils are free for the day.

Sewing and knitting are taught to both boys and girls under 10, and the master was understood to say that he gave this instruction himself.

The boys receive, also, preparatory instruction in a simple form of wood Sloyd, in a course comprising about 60 models.

The older boys (7 in number), receive instruction in Sloyd proper strictly after the Näs system, which the teacher—who has not been at Näs, but intends to go—had acquired in the Training College.

The instruction is given on Saturdays, which are wholly given up to Sloyd, the instruction lasting over four hours.

The "Sloyd-sal" is an upper room in an out-building of the most simple character, fitted up with five benches, at which 7 boys seem to be able to work at a time. A new "Sloyd-sal" is to be erected soon.

The teacher receives a grant from the Government of 75 kronor for teaching Sloyd. The "Länsting" (County Council) contributes 30kr., the parish nothing. The teacher finds the wood.

The boys pay nothing for instruction or materials, and the models they make become their property. Sloyd is also taught in all the Folk Schools in Upsala, and there is a Sloyd School—for more advanced work—attached to the University.

In one of the schools visited, the Sloyd-sal is very completely fitted up with some forty benches, tool

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* See Enk., Vol. III., p. 142.

† See Enk., Vol. III., Appendix, p. 122.

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cupboards, &c. In this room there were three turning-lathes; and, in addition to Sloyd models of the usual type, there were models involving the use of the lathe.

There was a special room fitted up for teaching "papp" Sloyd.

Saturday, June 12.—Accompanied by Miss Lendin, Directress of Needlework in Stockholm, and Mr. Herbert, First Secretary of the British Legation, visited the Maria Magdalena School, Stockholm—Head-master, Herr Sahlen. This school is attended by over 3,000 children. The buildings are new, and the equipment in every respect singularly complete.

A visit was first paid to the gymnastic hall, where one of the higher classes of girls was at work. The course followed is the well-known Swedish (Jung's) system, in which great regard is paid to physiological considerations, and the teachers receive special training. A device for rapidly erecting the vaulting-bar apparatus and again lowering it in the floor, attracted much attention.

In two classes—corresponding to Classes I. and II. of the Irish system—boys and girls were seen receiving common instruction in knitting and sewing.

A special sewing-room has been fitted up for the use of the five highest classes. This room is equipped with a special type of sewing-table for each girl, with folding-lap, and pad for sewing. Blackboards are ranged all round the walls of the room, and on these the girls of the highest class are practised in drawing the pattern of a dress, which they then cut out in (1) paper, (2) cloth, and finally make.

The girls in the highest class also cut out the work for the lower. Great attention is paid to drawing, and many of the girls showed admirable specimens of this kind of work. The pupils bring stockings from home to be darned, and no difficulty is found in getting a sufficient supply of material.

A room for wood Sloyd was next visited. In this there were twenty benches, and twenty pupils at work, under charge of one teacher. The benches are single benches, and each has a tray attached, for holding the tools in frequent use. The others are hung round the room. The arrangement as to teachers' hours and methods of work are the same as those at Kungsholmen School, already visited.

In the afternoon a second visit was paid to the Exhibition. The arrangements of the Model School kitchen were explained by Miss Lendin. A range in the middle of the floor, with four draughts, was a novel feature. The meals cooked are of the simplest and cheapest kind. The price of everything is put upon the blackboard, and the girls are taught to pay attention to the comparative nutritive value of foods.

In connection with the sewing exhibit from the Stockholm Schools, Miss Lendin gave an exhibition of the principles on which her work is conducted. Needlework is generally called in Sweden "Quinnige Sloyd," i.e., women's Sloyd, and she has endeavoured to arrange the work so as to get from it something of the same intellectual discipline, as well as manual dexterity, that is got from wood Sloyd. The work is arranged in a succession of "models" after the manner of wood Sloyd, but she differs from the Nais School in that she favours an extensive use of "class instruction."

The wood-work and metal-work exhibits were again visited, and special attention was paid to the development of typical series of models—e.g., the Stockholm series. (For some remarks on the relation of school Sloyd to "Hus-Sloyd," as brought out in the exhibition, see separate Report.)

Monday, June 14.—The Commissioners visited Enby School, a rural school in the neighbourhood of Norrköping.

The Sloyd instruction is given in a loft, up a steep stair. The room is furnished with eleven benches, of which thirteen pupils were working. The tools are kept in a ledge of the bench, and also in open cupboards on the wall. There is a turning-lathe, but not much use is made of it in the ordinary work.

The pupils of Sloyd (age ten and over) are taken in two groups of fifteen or sixteen each. One group receives instruction on Mondays and Wednesdays, and another on Tuesdays and Thursdays, from 2.30 to 4.30—after the ordinary work is over. The Nais series of models is followed, with some variations. The children are taught to sharpen tools for themselves. They use printed drawings, which they copy on to the wood, but they do not prepare the drawings themselves.

On examination nearly all the pupils were found to be engaged on different models. No attempt is made to keep them together, and the instruction is absolutely individual. This is in accordance with a fundamental Nais principle—the setting each pupil a problem to do for himself—but a discussion of which see Herr Sahlen's evidence.

Mansberg School—a small, rural school, with one teacher—was next visited. At this school there is an attendance of forty-eight pupils, boys and girls, in four classes. Of these fifteen, including some just over ten, take Sloyd; and fifteen were present, and receiving instruction in Sloyd, at the time of visit.

The school is new, and the Sloyd room is a new, light, airy apartment, up one stair, being, to all appearance, one room of the teacher's house. It is fitted with eight double benches, a rack for tools on the wall, a cupboard for models, and a room for rough wood and a grindstone.

This is the first year of the school; but a large collection of models was shown which have been made by the boys within half a year. Some had advanced in that time to the 25th model of the Nais series. The work in its general features was similar to that of the previous school. One special feature of Swedish Sloyd was observed. Two boys were found sawing from the rough log the pieces of wood which they required.

The next visit was paid to the Södra Skola, a large town school, in Norrköping. The Sloyd room contains thirty-two benches with the usual equipment. At the time of visit there were two classes of thirteen each, occupying the room, under two teachers. At Södra Skola, each class is purposely composed of ten and more advanced pupils; one half of each class having had three Sloyd terms, and the other half only one. The arrangement and methods of work presented no new features.

What was chiefly notable (being the last day of the term) was the large display of beautifully-finished work. As a specimen of the kind of work done, mention may be made of a large plate of admirable workmanship, completely finished by a boy of thirteen years of age in twenty-four school hours. This boy had been under instruction in Sloyd for four years, and must consequently have begun when under ten.

In their visits to these schools, the Commissioners were accompanied by Herr Sjogren, who is Sloyd Inspector for Oster Gotland, with 112 schools in his district. He teaches himself in Enby School, the first visited, two hours on four days a week. He makes his inspection visits to the other schools as he best can, and some at overlooking them all once a year, but finds it barely possible.

DENMARK.

Tuesday, June 15.—A visit was made to Herr Axel Mikkelsen's Training Classes for Teachers in Sloyd, at Copenhagen.

In the absence of Herr Mikkelsen, the Commis-

quarters were met by Dr. Friis, Member of the Danish Lower House, and President of the Danish Sloyd Association, who explained the arrangements and gave information as to the position of Sloyd in Denmark.

The Copenhagen School of Sloyd differs in many of its features from the Niss system, and a brief account of its leading features is given in a Special Report compiled by the Commissioners.*

A visit was made in the afternoon to one of the three Communal Schools of Copenhagen, into which Sloyd has been lately introduced.

Mikkelsen's system of Danish Sloyd is the one in use at the school.

The teacher is a special Sloyd teacher, and does not teach other subjects. The benches are lower and smaller than in Sweden, special planes, &c., are used, and the wood for the models is so far prepared. The drawings necessary for making a given model are put upon the blackboard, and copied by the pupils into a notebook. From this note-book the pupils work. It was observed that though the pupils had presumably started at the same time to make the model drawn upon the blackboard, they were at very different stages of progress—some half through, some finishing, and were engaged upon another model. (It was afterwards explained that by class instruction in the Danish system, it is not meant that all the pupils are doing exactly the same work, but that they are all working within a group of models of a similar type, involving exercises which had been already practised in common.)

At a certain point the teacher assembled all the pupils around his desk, and proceeded to give a lecture, with practical illustrations, on (1) edge-planing, (2) filing, (3) the use of sand-paper. Certain common faults were illustrated, and the work done was passed round for the boys to examine individually. The lecture was found not to be quite successful in preventing several of the boys from committing the mistakes warned against when they returned to the benches.

The teacher gave a special lesson to three boys who were absent at the previous meeting.

Wednesday, June 14.—A second visit was paid to Herr Mikkelsen's Training School.

Twelve students were present, of whom six were boys.

The second lesson of the course was in progress (sawing, boring). The students were practised in sawing English elm to word of command (1) with the right hand, (2) with the left.

They were similarly practised, after demonstration by the teacher, in sawing crosswise (with left hand only). It was then shown—as to children—how to bore holes for nails, and to drive the nails.

The pupils then made rectangular frames by nailing together the pieces of wood already sawn.

The training courses are held three times a year for five weeks at a time. They are attended mainly by teachers, some of whom have returned for a second and some for a third course.

As a rule, teachers take the course during their holidays, but in the past year, ten teachers from the Copenhagen schools attended by special leave from the school authorities. Arrangements are made for the

students receiving also, some instruction in modern languages while attending the course.

A new law affecting Training Colleges was passed in 1894, which prescribes a three years' course for students with one year's previous practice.

One Training College has begun to teach Sloyd, and Sloyd is an optional subject of examination.

The general position of Sloyd in Denmark is explained in Special Report.*

A visit was paid to the Ministry of Education, where the Commissioners were very courteously received by the Minister.

The information as to Sloyd in Denmark, obtained at this interview and from the official publications presented to the Commissioners, was found useful in preparing the Special Report already referred to.

The Commissioners in their visit to Copenhagen were accompanied by Herr Fentke, H.B.M. Vice-Consul, whose services were of the greatest value.

A list is appended of various publications presented to the Commissioners by school authorities in Sweden and Denmark, these being more or less directly on the subject of their inquiry.

1. Sveriges Undervisnings väsen, utarbetad för gymnasie nordiska Skolmotet i Stockholm, 1893.
2. Das Schwedische Unterrichtswesen. Kurze Uebersicht für die Kunst- und Industrieausstellung in Stockholm, 1897. . . . herausgegeben von Dr. C. C. Bergman.
3. Göteborgs Allmänna Folkskolstyrelses Berättelse för år, 1896.
4. Göteborgs Folkskolors Modellserie för Träslöjd (illustrerad).
5. Göteborgs Folkskolors Modellserie för Metallslöjd (illustrerad).
6. Undervisnings plan för Göteborgs Folkskolor.
7. Stockholms Stads Folkskolors Berättelse för år, 1896.
8. Anvisningar angående undervisning i Slöjd vid Næringsøgs Folkskolor.
9. Sloydagen i Danmark (1888-1897) 9 Annual Report of Danish Sloyd Association.
10. "Danish Sloyd" reprinted from Guide to Exhibit of Danish Sloyd Association at Chicago, 1893.
11. Samling af Bestemmelser vedrørende Kjøbenhavns Skolevæsen.
12. Beretning om det Kjøbenhavnske Borger-og Almue-skolevæsenes Tilstand for Aaret, 1894.
13. Tabellærke Modellserier vedrørende Borger-og Almue-skolevæsenet uden for Kjøbenhavn for Aaret, 1894.
14. Skolebøke modelleker om Skolevæsenet i Danmark.
15. Forslag til lov om Forandring i forskellige Bestemmelser Angående Borger-og Almue-skolevæsenet.
16. Betænkning over Forslag til lov om forskellige Forhold vedrørende Folketskolene.
17. Danmarks Følelseskøles og Landbrugsskoler, 1844-1894.
18. Modelleker om den vidtvidende Folketskole i Askov, 1892-3 and 1893-4.
19. Akad. Mikkelsen—Arbejdsstillinger.
20. Løge, Bøddel og anden Idet. Kort vejledning til Brug for skoler udsat for Gymnastik kommissionen.

* Evst. Vol. III, Appendix, p. 152.

DOCUMENT put in by Professor W. F. BARNETT, F.R.S.E., Royal College of Science, Dublin.

NOTES ON ELEMENTARY PRACTICAL PHYSICS.

The following is an example of the course on elementary practical physics, adapted for teachers in the National Schools and others, which was given at South Kensington in 1874 and subsequent years. One object in view was to show the class how simple but efficient teaching apparatus could be made by themselves at a small expense:—

Instruction in Practical Physics, Science Schools, South Kensington, 1874.

ELECTRICITY AND MAGNETISM.

FIRST DAY.

1. Make the following apparatus:—

- (a.) A Glass Tube for electric excitation.
Glass tube about 18 inches by $\frac{3}{4}$ -inch. Thoroughly clean and dry inside (this is important), close and round one end, fuse edges of other end.
- (b.) Anagamed Silk Rubber.
Thoroughly dry piece of flannel 12 inches by 6 inches. Double in two and cover on both sides with silk. Very slightly grease one side with lard, and dust on some finely powdered Amalgam.
- (c.) Balanced Glass Tube.
Glass tube about 12 inches by $\frac{3}{4}$ inch. Clean and dry inside, close and round one end, nearly close other end. Find the centre, and mark with ink. Soften one side of tube at centre in Bunsen burner, push in side with point so as to make conical cap.
- (d.) Pith Balls and attach insulating threads to some of them.
Cut balls roughly to shape with knife, finish with file or glass paper. Thoroughly dry and warm silk thread, while warm immerse in melted paraffin. Wipe off as much paraffin as possible. Attach to pith ball.
- (e.) Proof Plane.
Circular disc of gilt paper about 2 inches diameter, fastened on end of strip of varnished glass, or ebonite penholder, or stick of sealing wax.

2. An electrified body attracts and is attracted by electrified bodies.

Glass tube rubbed with silk, sealing wax rubbed with flannel, hot brown paper rubbed with clothes brush, and paraffined paper rubbed with fingers, all attract light bodies: the excited paper adheres to wall, paper and excited balanced tube are attracted by hand.

3. Show the existence of two electricities.

Suspended pith ball when repelled by excited glass is attracted by excited sealing wax, and vice versa. Two excited glass rods repel each other, two excited sealing wax rods also repel each other, but excited glass attracts excited shavings.

SECOND DAY.

1. Make a gold leaf Electroscope.

Clean and dry glass flask, fit with cork, bore cork and fit with piece of glass tube about 1 inch long. Pass strip of tinfoil about an inch wide inside flask on opposite sides. Cut zinc disc 1½ inch diameter (or use a penny piece), drill and solder to it a straight brass

wire 9 inches long. Drill hole in edge of disc. Fill glass tube, previously cleaned and warmed, with clean shavings, warm wire and push through. The efficiency of the instrument depends on insulation by shavings, great care must therefore be taken to get rid of all dirt or moisture. Fix glass tube in cork. Clean wire and bend lower end round into hook, horizontal part being about $\frac{3}{4}$ inch long and fastened to receive gold leaves. Cut two strips of Dutch metal, say 3 inches by $\frac{1}{2}$ inch wide. Gild each side of hook and take up leaves. Shade from air currents, and place in flask. Connect tinfoil strips with earth.

2. Test the insulating power of metal, wood, brass, silk, sealing wax, glass, paraffin, etc.

Charge electroscope, connect one end of substance with earth, bring other end into contact with cap of electroscope; note time in which electroscope loses its charge in each case. Note difference between substances used in its ordinary condition and some substance carefully dried.

3. Examine conducting bodies, and determine quality of electricity.

Hold end of wood or metal rod in piece of varnished India rubber sheet, excite rod by rubbing with fur or India rubber; test kind of electricity on rod.

4. Show that the rubber is excited with opposite electricity to that of body rubbed.

Make small proof plane with flannel instead of gilt paper, rub sealing wax or gilt paper carrier with the insulated flannel, test kind of electricity on each.

5. Show that kind of electricity depends on rubber.

- (a) Rub sealing wax with flannel and with gun cotton. (b) Rub brown paper with India rubber, with flannel and with brush. (c) Rub ebonite with silk and with anagamed silk. Test kind of electricity developed in each case.

THIRD DAY.

1. Make Spherical, Cylindrical, and Conical Conductors.

Coat wood ball with gilt paper or tin-foil, and attach paraffined silk thread. Make cardboard tube about 6 inches long, covered with gilt paper, and of such diameter that the ball just fits into it, and forms spherical end. Make gilt cardboard cone about 5 inches long, to fit ball in similar way. Silk threads are to be attached to cylinder and cone for suspending them.

2. Determine relative distribution of electricity on various parts of surfaces of above conductors.

Insulate and charge conductor. Test with small proof plane and electroscope.

3. Show that a point discharges electricity.

Attach fine sewing needle to insulated conductor, charge conductor by glass rod and proof plane. Test condition by proof plane and electroscope. Repeat experiment without the point.

4. Examine condition of insulated ball under induction.

Suspend ball, bring excited glass near, examine near and distant sides of ball with carrier and electroscope.

5. Charge insulated conductor with negative electricity by induction.

Bring excited glass near, touch conductor with finger, remove finger, then remove glass. Test electricity. Ascertain whether the part of the ball at which it is touched makes any difference as to quality of electricity which remains.

6. Charge electroscope by glass rod (a) with negative, (b) with positive electricity.

(a) Charge by induction as in No. 5. (b) Charge by conduction with proof plane. Test quality in each case.

FOURTH DAY.

1. Show that electricity is found only on the exterior of a hollow body.

Suspend hat by insulating threads, charge with glass rod and large proof plane or by induction. Test inside and outside with proof plane and electroscope. Note large accumulation found round edges.

2. Prove that result found in No. 1 arises from induction by surrounding bodies.

Test condition of table, etc., near charged hat. Place large conducting ball, earth connected, inside of hat but not touching it. Now test inside and outside of hat.

3. Make Insulating Plate.

Glass plate 10 inches by 8 inches. Thoroughly clean, warm and varnish with shellac on both sides. Attach silk loops as handles.

4. Arrange and illustrate action of a Condenser.

Lay piece of tinfoil $7\frac{1}{2}$ inches by 6 inches, earth connected, on table, on this lay insulating plate (No. 3) and on plate a second sheet of foil connected by wire to electroscope. Charge upper foil with proof plane until leaves just begin to diverge; cautiously lift plate and upper foil. Repeat experiment, lower foil being insulated.

5. Show that the charge of a Condenser resides on the glass, not on the coatings.

Arrange condenser as in No. 4, paper 4 without electroscope, and charge like a Leyden jar. Remove upper coat, lift insulating plate and then lower coat. Test coats and each side of glass plate by electroscope. Replace coats and discharge.

6. Gradually discharge Condenser by pith ball carrier.

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Cast lead bullet on end of brass wire 6 inches long. Solder other end of wire to zinc disc 3 inches diameter, so that wire may stand vertically, zinc forming a foot. Make another similar rod. Charge Condenser as in No. 3, one of the rods standing on upper tinfoil, the other on the table connected with earth and lower tinfoil. Suspend pith ball by long silk thread so as to hang half way between the bullets, the latter being two or three inches apart. The pith ball will oscillate between the bullets gradually neutralising the electricity of one with that of the other.

The 5th and 6th days were occupied with constructing and testing the electrification of a Leyden jar, the Electrophorus, the making a simple Quadrant Electrometer. Magnetism was then begun as follows:—

SEVENTH DAY.

1. Magnetise sewing needle by discharge of jar through coil of wire.

Make a small coil of wire on end of glass tube, cover with shellac. Place needle within and discharge jar through coil of wire. Note direction of current through coil and consequent polarity of needle. Ascertain poles of needle by floating it on water. Suspend needle by fine thread from centre and keep for use.

2. Magnetise soft iron wire with voltaic current, and compare results with No. 1.

Connect copper plate to end of wire coil previously connected with positive coat of jar, and zinc plate to other end. Immerse plates in dilute acid and place iron wire in coil. Test its polarity with suspended magnetised sewing needle.

3. Examine action of current on magnetic needle.

Place zinc and copper plates in dilute acid, connect by copper wire. Place suspended needle above, below, and on each side of wire. Observe deflection in each case. Placing zinc and copper plates at sufficient distance apart, examine direction of current through the liquid.

4. Make two bar magnets.

Two steel strips 4 inches by $\frac{1}{2}$ inch by $\frac{1}{2}$ inch. File ends square. Brighten portion of surface of steel surface. Lay steel on a piece of red hot iron or hold it in large Bunsen flame until bright surface turns yellow, drop at once into cold water. Magnetise by drawing one pole of bar magnet along each. Note polarity produced and mark ends with coloured paper. Keep magnets with opposite poles adjoining and connected by soft iron keepers.

5. Obtain Magnetic Curves.

Place pair of bar magnets on white paper and sheet of glass above. Sprinkle iron filings from mauler over glass and tap surface. Try in this way various combinations of poles with bar and horse-shoe magnets.

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6. Fix Magnetic Curves.

(a) Make a solution of gall nuts. Brush over sheet of paper with solution, remove superfluous moisture by blotting paper. Place damp paper over curves, press evenly, carefully lift paper; dry quickly and shake off filings. A permanent impression in ink will be left on the paper. (b) Fix pair of magnets to one side of square of glass, coat other side with very thin gum water, when plate is quite dry dust fine iron filings over gummed surface, tap, then breathe gently on plate. Gum is thereby softened and curves fixed.

7. Determine distribution of power along a bar magnet.

Magnetise long steel knitting needle, try by filings whether intermediate poles be present, if so remagnetise and get rid of them. Magnetise a sewing needle and suspend it by silk fibre attached to its centre. Determine number of oscillations suspended needle makes per minute under influence of earth

alone. Call this number "a." Fix knitting needle magnet vertically, and determine number of oscillations sewing needle makes at uniform distance (say one inch) from various points along vertical magnet from end to end. Call these numbers b, c, d, etc. Then $b^2 - a^2$, $c^2 - a^2$, etc., express relative magnetic intensities of the various points. Plot out the curve of distribution of free magnetism from your number thus obtained.

The next five days were occupied with Current Electricity. A simple voltaic cell, a galvanometer, Wheatstone's bridge and resistance coils, &c., were made, and a number of experiments on electrical measurement carried out. This concluded the fortnight's course.

The next course was on Heat and the Physical properties of air and water. Then one on Sound and Light, as all of which a similar plan was adopted, each student being provided with a printed copy of the work for the day as he entered the laboratory, the apparatus they had made remaining their own property.

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LIX.

RETURN* with reference to the Teaching of WOODWORK and METAL-WORK under certain SCHOOL BOARDS in ENGLAND and SCOTLAND.

NAME OF SCHOOL BOARD.	QUESTIONS			
	In Woodwork Compulsory by the rules of the School Board, (or Board of Boarding V, VI, VII ?)	In the "Centric" System adopted?	If so, say it is held that the "Centric" system has really a better result in training the boys to receive the instruction?	Number of boys receiving instruction in Woodwork or Metal-work under the School Board?
REVIEWS				
LONDON.	"Yes."	"Yes."	"Yes."	"50,000"
BIRMINGHAM.	"Yes, other woodwork as metal-work."	"Yes."	"We take 20 each week - four hours each day."	"Woodwork, 1,000 Metal-work, 1,000 Total, 2,000" Additional, approximately 100 boys to be added to take 1,000 more boys to meet the increasing demand for the work.
LIVERPOOL.	"Yes."	"Yes."	"In Liverpool, each centre provides 30 pupils of boys each week to receive the instruction."	"Woodwork, 100 Metal-work, 100 From Board School, 5000 From Voluntary Schools, 500 Total, 6,500"
SARROW-ON-THE-FORE.	"Yes. Special permission must be asked and given before a boy may be kept from class."	"Yes."	"Yes."	"1,000"
EDINBURGH.	"There has been no definite provision laid down. As a rule, the Head Masters send all the boys of these standards to the workshop. The fact of the Board having made arrangements for instruction in woodwork, is generally taken as meaning that it must be given to all boys of age."	"No. In schools where there are no workshops, the boys do not receive instruction in woodwork."	—	"On the roll for session 1897-8, there are at present 1,116 Woodwork instruction is to be steadily increased in five additional schools."
GLASGOW.	"Not compulsory. In nearly all the schools in which woodwork is taught, the boys of Standards VI and VII receive instruction. In a few schools the boys of Standard V take the manual work."	"Yes."	"Yes. In two centres, it is compulsory to attend such work to prepare the instruction."	"1,100"

* The information has kindly been supplied by the School Boards mentioned—Secretary. April 2, 1898

IX.

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IX.

Document put in by Mr. J. SMITHERS

MEMORANDUM ON VARIATIONS in the conditions of STATE AID to SCHOOLS in ENGLAND and SCOTLAND, and corresponding changes in the mode of inspection.*

In the evidence given before the Commissioners as to the operation of the results system in Ireland, frequent reference was made to the very different methods now adopted for assessing grants to schools in England and Scotland. As these methods were the outcome of a long and at times fairly rapid process of evolution, these references may be made more intelligible by a brief consideration of the principal steps by which the present conditions of examination and payment of grants were arrived at in the case of each of these countries.

I. ENGLAND.

Prior to 1852—the date of the introduction of the "revised code"—State-grants were made in aid of voluntary local effort to "promote the education of children belonging to the classes who support themselves by manual labour" in various forms and on conditions set forth from time to time by minutes of the Committee of the Privy Council on Education.

In 1853 the first Treasury grant was made for the erection of school houses and this grant was subsequently increased.

In 1859 the Committee of Council on Education was established and Inspectors were appointed.

In 1843 Normal Schools or Colleges for training teachers were instituted and grants were made for school furniture and apparatus.

In 1846 a very important departure was made by the institution of "Augmentation" grants, i.e. grants given to augment the salary paid to the teachers by the local Managers on certain conditions as to the amount of the original salary and the class of certificate, and—a fact of interest in view of the purpose of the present Commission—certain subsidiary grants were allowed for the first time in aid of hiring fields and gardens, of erecting workshops in which handicrafts might be taught, and in providing school wash-houses or kitchens for the instruction of girls in Domestic Economy.

In the following year grants were made for the provision of school books, maps and diagrams.

In 1853 what may be termed the pre-Code system was completed by the institution of "Capitation" grants, i.e. grants at a certain rate per head according to the number of scholars who had made a certain number of attendances. These grants, it should be said, were conditional simply on attendance and the payment of a fee and not on proficiency. The conditions on which grants in aid were made remained practically unaltered from 1853 till 1862. The various Minutes of Council which regulated the distribution of the grant during those years were collected and consolidated in the first "Code" presented to the House of Commons at a parliamentary return in April, 1860.

It may be convenient here to summarize the principal terms of State-aid to schools as prescribed in the Code of 1860. That Code, it has to be repeated, only brought together the conditions which had regulated the distribution of grants for many years previously.

I. Grants were made to Managers (a) for building, enlarging, improving, or fitting-up elementary schools, and for providing industrial premises in connection

with day-schools in the form of fields, gardens, workshops, laundries, &c. In each case at least an equal amount had to be contributed locally. (b) For providing books, maps, diagrams, scientific apparatus, tools, and raw materials for industrial departments. In order to obtain this grant the teacher was required to give proof of his proficiency in using the instruments or apparatus selected. Again, there were certain conditions as to the amount of local contribution for these purposes.

It has to be noted that the grants in class I. were, in certain cases, made to schools which were not in receipt of annual grants, and which, consequently, were only inspected occasionally.

II. Grants for Teachers.—(a) Augmentation grants for Certificated Teachers.

These grants were made on condition that a certain minimum salary (exclusive of the house or suitable lodgings rent-free) was provided by the Managers. The minimum amount to be paid by Managers varied with the class of the certificate, and in each case it was required that the amount so contributed should be at least double the amount of augmentation allowed. Thus, in order to obtain an augmentation of £30 from the Committee of Council, the Managers were required to pay to the teacher (supposed in this case to hold a certificate of the 'first division' of the 'upper degree'—i.e. of 1st) a minimum salary of £60, independent of the sum granted in augmentation. Three degrees of certificates were recognised, with three divisions in each degree. The degree of the certificate was fixed originally by examination; but promotions might be obtained by continued efficiency in the management of a school, and for this purpose certificates were open to revision every five years.

Special augmentation grants were paid for teachers in Welsh and Highland schools and for teachers who were certified, after examination, as competent to give instruction in certain branches of drawing.

(b) A grant of £15 for males and £10 for females was made for uncertificated assistant teachers—i.e. ex-pupil teachers, but for a period of three years only.

(c) An annual stipend from £10 to £15 was paid to each pupil-teacher, and a gratuity of £5 to £15 to the master or mistress who had charge of their instruction.

(d) Pensions were allowed to meritorious but incapacitated teachers.

These latter payments (b and c and d) were free from any condition as to local contribution.

It is interesting to note, as bearing on the present method of payment of teachers in Ireland, that all the grants under II. were regarded as personal payments to the teacher. Post-office orders for the amount were issued to Managers, but they could only be cashed by the teacher who signed the receipt.

III. Capitation Grants.—These were grants at a certain rate per head, in aid of the general expense of maintaining the schools, and were paid to the Managers. The Code expressly states that teachers have no greater claim on the capitation grant than on any other sum of money in the hands of Managers for the support of the schools. This grant was paid

* The original official publications have been mainly relied on for the statements made in this memorandum, but in addition the Report of Lord Cross's Commission (1896), and Sir H. Cross's "The State in its relation to Education" have been drawn upon for information as to the conditions of things prior to 1862.

on account of each scholar who had made 176 whole day attendances (certain exceptions were allowed), and varied in amount according to the size of the school. The amount varied from 8s. for boys in a school with less than 50 pupils to 8s. for girls in a school with over 100 pupils.

Capitation grants were allowed for scholars in evening classes, and also for pupils in industrial classes, an increased grant being allowed where a special teacher other than the class teacher was engaged.

It is obvious that the system of State-aid to schools outlined above presents several interesting analogies to the system which obtains in Ireland at present, leaving out of account, of course, that portion of the grant which takes the form of results fees.

It remains to bring out prominently one feature of the system described above. No item of the grant depended directly on the proficiency of the pupils in any subject of instruction. It is indeed nowhere stated in the original Code what the subjects of instruction should be, or what degree of advancement in any subject should be expected at a particular stage of school life. Inspectors visited the schools, examined the classes in the subjects professed, and reported as to the efficiency of the work; but the amount of grant payable was not thereby affected except in one respect only—viz., the portion of grant which was given in augmentation of the teacher's salary. Even that item did not vary from year to year with the varying efficiency of the school. At the most a teacher who was reported on unfavourably might not receive promotion when the period (five years) for the revision of his certificate was completed. Nor was this dissociation of payment from degree of efficiency an unintentional oversight. It is declared unequivocally in one of the earlier minutes (1847) that the object of the grants is "to pay for the means of education rather than to attempt any method of payment which should be determined by results," language which curiously anticipates an oft-repeated sentiment of the present day.

As to the merit of the education given under these conditions of State-aid, opinions varied at the time. They undoubtedly gave scope to a teacher with enthusiasm for his work, and favoured the progress of the elite of the pupils.

The following description, of date 1854, of what a boy of fair average attainments, at the age of twelve years, in a good school, has learned, represents a range of work and a breadth of treatment which must seem rather astonishing to those who have most acquaintance with similar elementary schools in more recent years.

He has, says the writer, learned to read fluently and with intelligence not merely the school books, but any work of general information likely to come in his way.

He can write very neatly and correctly from dictation and from memory, and express himself in tolerably correct language, though the writer adds that the latter attainment is comparatively rare.

He can work all elementary rules of arithmetic with accuracy and rapidity, the instruction in this subject embracing decimal and vulgar fractions, duodecimals, interest, &c. He can parse sentences and explain their construction; but English grammar then, as now, seems to have been the least satisfactorily taught of school subjects.

The boys are generally acquainted with the most important facts of English history, and show much interest in the subject. The amount and accuracy of the knowledge of physical and political geography, of manners and customs, &c., displayed by intelligent children of both sexes, is surprising. Well-drawn maps are commonly exhibited by the pupils. In many good schools, he says, the elements of physical science and the most striking phenomena of natural history form subjects of useful and very attractive lectures.

The principles of political economy are taught with great clearness and admirable adaptation to the wants and capacities of artisans in the reading books generally used in the metropolitan schools.

Drawing is taught with great care and skill in many schools. The writer goes on to say "that any addition can be advantageously made to this list I do not believe, considering the age of the children; nor am I of opinion that any of these subjects could be omitted without practical detriment to the schools."

To judge from the report of the Newcastle Commission, good schools giving an education of this type cannot have been very common even among inspected schools; and inspected schools at that time contained only a fraction of the children of school age.

In 1862 the system of State-aid described above was superseded by that of the revised Code. The change effected was no mere modification of the existing regulations, but amounted, in fact, to an absolute revolution. The existing regulations were unconditionally abolished by Minute, and the revised Code introduced an entirely new basis of State-aid to schools. The leading principles were two—1. All payments were to be made to Managers, who were henceforth to make their own terms with their teachers. 2. All payments were to be made on the results of individual examination of the scholars according to certain prescribed standards.

Both changes were made on the recommendation of the Newcastle Commission already referred to. A growing feeling of dissatisfaction with the general state of education in the country led to the appointment of that Commission in 1858. The terms of the reference were "To inquire into the state of popular education in England, and to consider and report what measures, if any, were required for the extension of sound and cheap elementary instruction to all classes of the people." It is of the utmost importance that the scope of this reference should be kept clearly in view if the conclusions which the Commissioners arrived at are to be estimated at their proper value. The purpose of the Commission was to discover some means of extending education as widely as possible. For that purpose attention had to be confined to the most elementary forms of education, and the question of cost became an important one. The need for such an extension of elementary education was abundantly brought out in the course of the inquiry. It was found that of the estimated number of 2½ millions who ought to be at school only 1,675,000 were in public schools of any sort.

Of the pupils in public schools only one half were in schools under any sort of inspection.

The attendance in inspected schools was estimated at only 74.65 per cent. of the children on the books.

That even in the best (inspected) schools only about one-fourth of the scholars attained the highest class, and were considered by the Inspector to be successfully educated.

That the instruction given was too much adapted to the able scholars to the neglect of the younger ones.

On the other hand there was strong testimony to the marked superiority of inspected over uninspected schools, and to the stimulus which inspection supplies.

It was also added "That in point of literary instruction it would be a mistake to suppose that the existing system had failed because it had hitherto successfully educated too small a proportion of scholars. It had succeeded in establishing a good type of education." It should be further said that some of the conclusions of the Commission, in particular the statement that even in good schools not more than one-fourth of the scholars were successfully educated, were disputed by men of the educational standing and prominence of Mr. Matthew Arnold, Mr. Sharpe and Mr. Stewart.

In face of some of these facts it is clear that what the Commission had to aim at was "exten-

tion" not "interference" in education. Their object was to secure what was considered the irreducible minimum of education for so many children as possible, rather than the fostering of a high type of education. Their recommendations accordingly must be judged of, not on their intrinsic merits, but in their relation to the circumstances of the time; equally of course their recommendations cease to have weight when the educational environment has been substantially changed.

They found that the expense of the existing system, arising particularly from the payments to certificated teachers, was an obstacle in the way of the extension of educational facilities. They consequently recommended that payments should be made to managers directly, and they even quite logically went so far as to recommend that grants should not be restricted to those schools which employed certificated teachers. This recommendation, however, was not adopted.

To secure that the teaching of elementary subjects should be more effective, and more evenly distributed among the scholars, they recommended "payment by results."

"There is only one way," the Commission reports, "of securing this result, which is to institute a searching examination by competent authority of every child in every school to which grants were paid, with a view to ascertaining whether these indispensable elements of knowledge are thoroughly acquired, and to make the prospects and position of the teacher dependent to a considerable extent on the results of this examination."

They made several recommendations in detail as to the mode in which grants should be distributed, including the establishment of County and Borough Boards of Education with rating powers. These recommendations were not adopted, but the two principal recommendations referred to above formed the basis of the revised Code. That Code, as has been said, amounted to a virtual revolution in educational administration. Its provisions as contrasted with the preceding regulations summed up in the original Code were very simple, and may be briefly summarised.

I. The building grants—but not the grants for apparatus, books, &c.—were retained.

II. Payments to teachers on classification were abolished.

III. The capitation grants were retained in a modified form, and now constituted the sole annual grant to schools. They were:—

(1.) A grant of 4s. per scholar in average attendance. This part was paid irrespective of results of examination provided that the school was not found to be totally inefficient.

(2.) For every scholar who had attended more than 260 morning or afternoon meetings of the school.

(a.) 6s. 8d. per scholar if under six years of age, on a report by the Inspector that such children are instructed suitably to their age classification.

(b.) If over six years of age 8s. per scholar subject to examination. 2s. 8d. was deducted for each failure in reading, writing, or arithmetic respectively. Standards of examination, in the three R's only, were for the first time set forth for this purpose. The grant might be reduced by tenths for faults of instruction or discipline, and for defective school equipment, and was also reducible by its excess above the school fees and subscriptions, or by its excess above 15s. per scholar in average attendance. The allowance for pupil-teachers was discontinued, and those and all other teachers were engaged by the Managers on their own terms.

As a result, though the number of scholars in inspected schools rapidly increased, the grant fell steadily through a number of years.

But it was found that this result was only accomplished at the cost of a considerable sacrifice of elasticity and intelligence in school work, and of its restriction to a narrow field of effort.

The grant, in so far as it varied with the character of the instruction, depended upon successes in the three R's alone. No payment attached to the teaching of subjects such as grammar or geography, still less to those more advanced subjects which, as shown in the extract already quoted, were not uncommonly and successfully taught in school before the period of the revised Code. (From the first, however, it was insisted on as a condition of all grants to schools that the girls should be taught needlework.) The Education Department, it is true, underscored almost in face of the provisions of the Code to maintain some breadth of examination. In the "Instructions to Inspectors" issued on the introduction of the revised Code, it was said that "the grant to each school depends, as it has ever done, upon the school's whole character and work. You will judge every school by the standard which you have hitherto used as regards diligence, moral and intellectual merit. The examination (under the standard) does not supersede this judgment but presupposes it." Most probably, indeed, in the minds of the authors of the revised Code, it was not at all contemplated that its operation would appreciably contract the range of school instruction which commonly obtained at the time, but would simply *superadd* to whatever merits the schools already possessed in that direction greater thoroughness of work in the elementary subjects and in the junior classes. But, in effect, in spite of the well meant "instructions" the latter aims were not superadded to, but substituted for the former, and opinions differed as to the gain in efficiency even in the elementary subjects.

In the very first years of the operation of the revised Code, its defects were more than hinted at by men whose opinion was entitled to respect. Matthew Arnold, *et al.*, said that it might have other advantages, but undoubtedly and of necessity it would substitute a more mechanical system of inspection for the old scheme of obtaining a measure of the general intellectual life and tone of the school. The Rev. D. Stewart in the year 1868 reported a general decline throughout his district, not only in the extent of the subjects of instruction, but in the amount with which the purely elementary ones were taught. "When I speak of a decline in the general standard of instruction throughout the district, I do not mean that the number of subjects is reduced so much as that the purely elementary ones are not taught so thoroughly as they used to be three years ago."

These and similar criticisms had their effect, with the result that the system of the revised Code as originally established remained intact but a very few years only. Since 1867 the system of inspection and the basis of payment of grants established by that Code have undergone a process of very gradual evolution in the direction of paying attention to the larger aims of school work, and the efficiency of the school as a whole, rather than to the recording of individual passes. The steps in that process were numerous, every few years bringing some modification of the Code, but only the more important are here referred to.

The first departure from the pristine severity of the revised Code was made by the Minute of 20th February, 1867. That Minute recognised that an elementary school might properly concern itself with instruction other than the three R's. It offered an increased grant on examination passes, restricted to a maximum of £8, on certain conditions, the most important of which was, that "the time tables of the school in use throughout the year provided for one or more specific subjects of secular instruction." These

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"specific" subjects were not defined, and might apparently embrace any of the many subjects which seem to have been commonly taught in schools before the introduction of the revised Code, but which had languished under the operation of that Code. They were generally of the nature of "class" rather than "specific" subjects, following no lines of the distinction subsequently made, and the extra grant was only payable on condition that one-fifth part of the scholars over six years of age in the school passed a satisfactory examination in them.

The effect of the modification thus introduced was to encourage in some degree a greater range of school work.

The Code of 1871, the year succeeding the passing of the Education Act, introduced a more liberal scale of payment—5s. instead of 4s. on average attendance, and a possibility of 12s. instead of 8s. on examination in the three R's. It also defined the "specific" subjects above referred to, laying down definite courses in several of them. The conditions of the grant for these specific subjects was much simplified. A grant of 3s. per subject was made for every day scholar presented in Standards IV-VI, who passed a satisfactory examination in not more than two of them.

It may be interesting to quote the enumeration of specific subjects given in the Schedule to this Code. They may be "Geography, History, Grammar, Algebra, Geometry, Natural Philosophy, Physical Geography, the Natural Sciences, Political Economy, Languages, or any definite subject of instruction extending over the classes to be examined in Standards IV, V, VI, and taught according to a graduated scheme of which the Inspector can report that it is well adapted to the capacity of the children, and is sufficiently distinct from the ordinary reading-book lessons to justify its description as a 'specific' subject of instruction."

In this Code attendance at drill for a limited period was recognised as a school attendance, though no special grant was paid on this subject.

The Code of 1873, which virtually repeated that of 1871, was called the New Code.

In 1874, instead of a grant of 6s. on the average attendance, 5s. was paid in this manner, while 1s. was made conditional on singing forming part of the ordinary course of instruction.

The next important step was taken in 1875, when the "specific" subjects referred to above were differentiated, a distinction being made between those subjects, such as grammar, geography, history, and needlework, which were taught to the children in classes throughout the school, and the "specific" subjects proper, such as mathematics and languages, which were taken only by selected pupils in the higher classes. The former were denominated class-subjects because they were paid for, not on the basis of individual examination, but on the average attendance of the pupils above seven years of age, according to the proficiency of the classes from which the children were examined. Children presented in specific subjects continued to be examined individually.

The general scale of grants remained as before, except that the payment for elementary subjects was reduced to a possible 9s. instead of 12s., while the grant for specific subjects was increased to 4s.

This Code also contained two other important changes, (1), the sum 6s. originally paid on average attendance simpler had in the preceding year been differentiated into a general grant of 5s. and 1s. dependent on the teaching of singing. In this year the general grant was further reduced to 4s., and 1s. was made dependent on the Inspector's report on the character of the discipline and organization. (2.)

The teaching of needlework to girls, had formerly been a condition of all grants. This subject was now included on the list of class-subjects (see above) and had a definite payment attached to it.

It may be convenient now to summarise the effect of the changes introduced up to this point. They were briefly (1), The scope of the education given in elementary schools had been gradually enlarged. New subjects, specific and class subjects, were introduced, or rather the teaching of subjects prevalent before the introduction of the revised Code, was revived, and graduated courses were laid down for the guidance of teachers. Drill, music, and needlework were recognised as important branches of elementary education, and to the teaching of the two latter a money payment was attached, so that they might not be neglected in comparison with the three R's.

(2.) The important point in the Code of 1875—The principle of payment on individual examination was departed from in the case of class-subjects and of singing and what was even more important, specific recognition was made of an element of school work which the provisions of the revised Code had tended to place at a discount, viz., the general tone and discipline of the school. In both respects the English Code followed the example which had been set in Scotland several years previously.*

So far no modification had been made in the system of payment on individual pieces in the case of the three R's. The two methods of examination—individual examination and class examination—ran side by side. Individual examination continued to be confined to the three R's. (and to specific subjects) while the merit of the instruction in all other subjects introduced from time to time was judged of, by the method of class examination. This conjoint system, with minor modifications, persisted till 1882.

In the Code of that year a new feature, the "Merit" grant, makes its appearance. This grant, amounting to 1s., 2s., or 3s., was awarded "if the Inspector, allowing for the special circumstances of the case, reports the school to be fair, good or excellent in respect of (1) the organization and discipline, (2) the intelligence employed in instruction, and (3) the general quality of the work, especially in the elementary subjects."

The former grant for discipline and organization was absorbed in the "Merit" grant. The fixed grant of 4s. was increased to 4s. 6d., and a grant of 1s. for needlework was paid in the same manner as the grant for singing.

A grant for cookery of 4s. was first introduced in the Code of this year.

In the grant on examination in elementary subjects an important change was made. Instead of paying a certain sum for each pass, a payment was made on the percentage of passes at the rate of 1d. for each unit of percentage.

The percentage of passes was determined by the ratio of the passes actually made to those that might have been made by all scholars liable to examination.

The grants for class subjects and specific subjects remained as before, and the arrangement of grants thus established persisted, with minor alterations, till 1888.

It is obvious that the principle of the "Merit" grant in itself tended to direct attention to the larger aims of school work, and to foster regard for quality of work, as distinguished from the attainment of pieces.

But its influence was largely neutralized by the accompanying change in the mode of payment on examination in the elementary subjects. The payment on percentage of pass was really payment on results in its most aggravated form, and in practice the percentage of pass being a definite and tangible

* It is very interesting to quote here the regulation concerning discipline first introduced in the Code of 1875.

"To meet the requirements concerning discipline the Managers and Teachers will be expected to satisfy the Inspector that all reasonable care is taken in the ordinary management of the school, to bring up the children in habits of punctuality, in good manners and language, of cleanliness and neatness, and also to impress upon the children the importance of cheerful obedience to duty, of consideration and respect for others, and of honour and truthfulness in word and act."

fact outweighed less palpable, but not less important, considerations in determining the rate of the "Merit" grant. In spite, therefore, of the excellent conception of the "Merit" grant, the years from 1882-1889 were probably those in which the pressure of the results system and its narrowing influence were most severely felt in England.

The increasing discontent with the system of grants established by the Code of 1882 was one of the causes which led to the appointment of Lord Cross's Commission in 1886, and the recommendations of that Commission—which reported in 1888—so far as they bore on the method of paying grants, were largely given effect in the Codes of 1889-90.

The changes foreshadowed in the Code of 1889 were more fully carried out in the Code of 1890, and the provisions of the latter only need be referred to.

A "principal" grant of 12s. 6d. or 14s. replaced the former fixed grant on average attendance, together with the payment on percentage of passes in elementary subjects, and to some extent, also, the "Merit" grant. Special weight was, however, given to some of the considerations on which the former merit grant depended, by the revival of the grant for organisation and discipline which was dropped in 1882.

The principal grant in one or other of its grades was to be awarded by the Department "after considering the report and commendation of the Inspector on the accuracy of knowledge and general intelligence of the scholars in the elementary subjects." In the "Instructions to Inspectors," which from this time on play a more and more important part in the interpreting of the provisions of the Code, and expounding the aims of the Department with regard to elementary education, it is explained that the new method of assessing grants to schools was introduced in response to a recommendation of the Commission to the following effect:—"The conditions on which the variable portion of the grant are now made to be so far modified as to secure that the amount shall depend on the good character of the school, and on the quality of the acquirements of the great majority of the scholars, rather than on the exact number of the children who attain the minimum standard of required knowledge." The more elastic conditions of award permitted cognisance to be taken of important aspects of school work which had previously had little weight attached to them when the percentage of "pass" or minimum proficiency was the determining factor in assessing the grant. In fact, as was expressly stated in the Instructions, the mode of judging school work formerly in use in the case of class subjects was now to be applied to elementary subjects also; at the same time, the method of class examination itself underwent an important modification. Hitherto it had been necessary in all Standards beyond I. and II. to examine all the scholars of each class in all the subjects professed. It now became permissible, under certain restrictions, to select a portion of a class for examination as a sample of the whole, and even to take the work of selected standards as representing the character of the work of the whole school in a given subject.

The system of grants established in 1890 comprised, in addition to the "principal" grant referred to, a grant of 1s. or 1s. 6d. on the average attendance for organisation and discipline; a grant of 1s. for needlework; 1s. or 6d. for singing; a grant which might amount to 4s. on the average attendance, for proficiency in class subjects, and a grant of 4s. on the examination of individual scholars in specific subjects.

The last item was now the sole remaining relic of the system of the Revised Code, and by a change in the Code of 1897 even that was swept away. In that year the grant for specific subjects was no longer made dependent on individual passes, but was paid on the total number of attendances of the pupils instructed at a rate (1s. or 6d. for every complete twenty-four

hours) varying with the general efficiency of the instruction.

It would thus seem at first sight as if educational legislation since 1887 had been mainly occupied in demolishing the structure of the Revised Code of 1882, and that after many years of tumultuous discussion and incessant Code mending we had at length, in 1890, found our way back to the state of things which existed prior to 1882. The period of the Revised Code was in truth but a revolutionary episode in the history of education in England. The system established by the Revised Code—a system, be it said, untried, and still less adopted, in any other country, except by imitation in some of the Colonies—broke completely away from the pre-existing traditions, and created a hiatus in the orderly development of the educational system of the country. What that development might have been it is idle to conjecture. The Revised Code was a desperate remedy for what was deemed at the time to be a desperate condition of National Education, and, revolution as it was, it has given a wholesome, and, it is to be hoped, a lasting set to school endeavour in the country. Under the Revised Code the great object of school work was to give, if possible, to every child—the dull as well as the bright, or the dull rather than the bright—some minimum command of the instruments of knowledge. Thirty years of its operation have made that aim an habitual one in elementary schools. The higher education of the more gifted children may have received but little attention, and the drilling and forcing of the others may have been carried to an extent which defamed its own object, but in all probability the discipline of the Revised Code has made it impossible that we shall ever again recur to the condition of things under which the schoolmaster devoted his energies to the training of his brighter and more advanced pupils, while the great mass were neglected.

That is the great change which the episode of the Revised Code effected, but in other respects also the situation in 1890 is not as in 1882. The change, whereby payments to *Managers* were substituted for payments to *Teachers*, has never been gone back upon. Local interest has thereby been immensely stimulated and local responsibility increased, and there can be no doubt that the change has favoured the introduction of new branches of instruction. In one sense also payment by results had not ceased in 1890. Payment was no longer made on individual passes, but the amount of the grant was to some extent proportioned to the efficiency of the work, all the various factors being taken into consideration. In that respect the system of grants in 1890 differs essentially from that of 1880, when payment was based almost solely on "classification"—i.e., on success in passing the qualifying examinations, and, to some extent, success in teaching in earlier years, but did not vary with the efficiency of the work from year to year.

Of the increasingly beneficial results of the changes introduced up till 1890 there seems to be no question. It is admitted on all hands that the work of the schools has greatly improved in intelligence and efficiency, while there is no evidence to show that there has been any consequent neglect of backward children. On the contrary, one of the most marked features of recent educational action has been the special attention given to the education of children physically or mentally "defective." The acknowledged improvement in the general efficiency of the schools is doubtless in part due to various subsidiary changes which, while independent of the system of "class" examination, are only rendered possible by it. Of these the more important are the greater freedom of classification, and—a point which has a very direct bearing on the work of the present Commission—greater variety in school work, resulting from greater freedom in the choice and arrangement of subjects.

APPENDIX A.
LX.MINISTERIAL
INSTRUCTION

The system of 1890 was modified in one very important respect in 1895. Up to this point the question at issue would seem to have mainly, as between two different methods of examination, individual examinations (and payment thereon) and class examination. A definite testing of the work at the end of the school year by some form of examination had been the rule. But by the Code of that year examination, in the ordinary sense of the word, was abolished altogether in the case of schools which have maintained for a sufficient time a standard of work well above the level of inefficiency. For examination in these cases has been substituted "inspection" at visits without notice.

At these visits the inspector sees the ordinary routine of the school, and directs his attention principally to the methods of teaching, the organization, and the general tone of the school. He may ascertain the progress made in any particular class from the record of work done, the results of examinations held by the teacher, and the exercises books of the children. He may also, under certain restrictions, question the children on the work done so as to test the intelligence of the instruction. If these visits without notice disclose any marked weakness in the work, he may, after due notice, institute an examination of the whole school.

The importance of this change is not obvious from a casual inspection of the Code. The rose of grants and their apportionment among the various subjects remain as before, and the only formal indication of the change is contained in an article which permits two visits without notice to be substituted for the fixed annual visit at the end of the school year. But a careful perusal of the "Instructions to Inspectors" reveals a real and exceedingly important change in the point of view from which the value of the work of a school is estimated. The stress is shifted from results to methods. The underlying assumption seems to be that, given a proper school environment, a course of study judiciously arranged, efficient and interesting teaching, and regular attendance, each child will make such progress as his native capacity admits of. In this view the customary examination tests afford but a very imperfect, and, it may be, a very misleading indication of the value of school work. An examination of the teaching in all its bearings must take the place of the examination of the children. It is too soon to speak confidently as to the merits of a change, which must be regarded as being as yet only in the experimental stage. Very various opinions have been expressed, more by way of prognostication than of ascertained fact. It may be said, however, on the one hand, that the method of inspection as opposed to examination has the great merit of directing attention, not so much to the amount of knowledge acquired (supposing for the moment that that is the principal aim of school work) as to the training of the children in the habit of acquiring knowledge for themselves and in the practical application of it. On the other hand, it may be denied whether "results," in the ordinary sense of the term, if not made too much a matter of percentages, do not after all afford a rough and ready, but, on the whole, fair indication of the real merit of school work, and it is scarcely doubtful that other methods of arriving at that estimate must be affected very largely by the personal equation of the inspector. So important, indeed, does that element become under the method of inspection as to suggest the question whether the abolition of graded grants, depending upon the supposed degree of merit of the work, is not a logical corollary of the change introduced in 1895. Such a step, if ever it should be taken, would be a virtual recurrence to the principle of State-aid to schools enunciated in the minute of 1847, according to which the object of State grants to schools was "to pay for the means of education rather than to attempt any method of payment which should be determined by results."

But even from this brief review it will be apparent that considerations of abstract logic have had little weight in determining the various modifications of the Code; rather, there has been an increasing, and, it must be said, largely successful, endeavour to adapt the conditions of State-aid to the varying educational necessities of the times.

II.—SCOTLAND.

The system of inspection and grants in aid to schools established in 1839 applied to Scotland equally with England. Till the formation of the Scotch Education Department by the Act of 1872 these grants in both countries were administered by the same central department under regulations which were practically uniform. Even after the establishment of a separate Committee of the Privy Council on Education in Scotland the work of the two departments—the English and the Scotch—was to a large extent carried on conjointly under the same responsible heads till 1885, when, on the passing of the Secretary for Scotland Act, the ordinary administrative work of the two departments was at length entirely disjoined. The Secretary for Scotland, as Vice-President of the Scotch Committee of Council on Education, is now responsible for Scottish educational policy, though a bond of union between the two departments still remains from the fact that both departments are still under the headship of the Lord President of Council.

It follows, from this long surviving unity of administration, that the conditions of grants in aid in both countries have undergone a very similar process of modification, notwithstanding the fact that the educational system in Scotland is widely different, both in origin and in enduring characteristics, from that of England.

It will probably be sufficient, therefore, to indicate briefly, with reference to the foregoing sketch, the main points in which Scottish administrative practice at various times diverged from the English. Such divergences as may be found are referable, for the most part, to certain traditional characteristics of Scotch education, as to which a word or two of explanation may be necessary.

The education of the people in Scotland in the early part of the present century was not left, as in England, to voluntary effort. An Act of 1636, which had been preceded by several less comprehensive measures, definitely imposed upon the barons—*i.e.*, the landowners—of each parish the duty of providing a schoolhouse and a salary for the teacher. This Act, with a supplementary Act passed in 1803, virtually made the school of the parish as much part of the national establishment as the Church, and brought the means of education within the reach of every class of the community. The opportunity thus afforded was very fully taken advantage of. Respect for education and an appreciation of its value had become almost a national habit, and were by no means confined to the well-to-do classes. All classes mingled in the parish schools, and the poorest in the land not infrequently found in these schools the opening of a distinguished career for their children. Hence, when the crisis of 1840 came, there was neither the same necessity nor the same readiness in Scotland as in England to sacrifice what were deemed valuable elements in the existing system of education in order to secure its extension in more rudimentary form to classes untouched before.

The feature of the parish school which was probably deemed of most value was the opportunity which many of them gave, in certain districts particularly, for higher education, leading on to the University and the professions. The teacher was frequently a graduate—an uneducated clergyman or other professional aspirant—whose pride it was to teach those subjects in which he himself was proficient, and the merit of a teacher was apt to be

Original copy of
Instructions
to Inspectors
Schools of
Scotland.Characteristics
of Scotch
Education.

measured by the success of a few brilliant pupils rather than by the average attainments of the many. This habit of giving preponderant attention to the older and more advanced pupils was fostered by another peculiarity of school life in Scotland. It was not the custom in the rural districts to send children to school at a very early age; on the other hand, it was customary for pupils who were otherwise employed in summer to attend school in winter till long past what would now be deemed normal school age. It did not follow, therefore, though the education of the younger pupils was occasional and unsystematic, and though at eight years of age they might make a very poor appearance when brought to the test of Standard I. of the Code, that the ultimate result, even in the case of pupils of not more than ordinary ability, was unsatisfactory.

The grants in aid under the original statutes prior to 1850 being the same as those already described in the case of England—except that capitation grants were not paid in Scotland—brought welcome aid to these schools with the minimum of interference with the established system.

But it will readily be seen that the system of the revised Code ran counter to the whole tendency of Scottish education, and its introduction was met by such a storm of opposition in Scotland that its operation was suspended year after year, and though the inspectors conducted their examinations according to the standards of the Code, and reported accordingly, payments continued to be made on the old basis. Doubtless the defects which the revised Code was meant to remedy existed in Scotland as well as in England, but the attempt to force the Scottish National system into a mould created by alien considerations was strongly resented, and the feeling thus created had much to do with the ultimate establishment of a separate Education Department for Scotland. The defects which the Newcastle Commission reported to be prevalent in English schools of the period, were, as has been indicated, to be found also, though in a lesser degree, in Scotch schools, as was established by a special Commission of Inquiry for Scotland, which reported in 1857. That Commission reported on the whole in favour of the principle of the revised Code, with such modifications and extensions as should adapt it to the special circumstances of Scotch schools. Accordingly, the system of payment by results, established by that Code, was first introduced in Scotland in 1853, the year after the passing of the Education (Scotland) Act. But from the first in Scotland the system of payment on individual passes in elementary subjects was accompanied by other conditions, which mitigated the severity of the system and gave a wider scope to educational effort. Greater breadth of teaching was fostered by the establishment of a grant for what were afterwards known as class-subjects (see preceding section), dependent on the proficiency of the class as a whole, and having special reference to the intelligence of the instruction. Another grant of an exceedingly general character, which had a most salutary influence, was that for organisation and discipline. The teaching of the traditional higher subjects was encouraged by the grants for specific subjects (see previous section). The grants for class-subjects, and the grant for organisation and discipline (at one rate only) were introduced into the English Code of 1875, the grants under which (see previous section) were practically identical with those of the Scotch Code of 1873.

The modification of payment by results in elementary subjects, introduced in England in 1863, was fortunately not adopted in Scotland, and the system established in 1875 persisted, with minor alterations, till 1886, the year following the final separation of the Scotch from the English Education Department. These years of the dominance of the revised Code in Scotland as in England, served a most useful purpose. They fostered a habit of thoroughness and attention

to detail in all connected with education, they insured that even the least promising pupils should have justice done to them, they mapped out the material stages of progress, and they laid a foundation on which a superstructure of higher education might be more safely reared. All this was not accomplished without some sacrifice, and it may be that violence was done to useful traditions. Certainly, during this period, and possibly even yet there was not the same opportunity for a lad of ability to obtain in his own neighbourhood that introduction to some form of higher learning which should open to him pathways of success; and it may be doubted whether any gain in efficiency of instruction in earlier years, altogether compensated in rural districts for the lost habit of winter schooling in more mature years.

One of the first acts of the Scotch Education Department on attaining an independent existence was to altogether abolish the system of payment on individual passes in the junior classes, i.e., classes under Standard III, and to substitute the method of class examination with graded payments on average attendance in respect of all subjects. Another change tending in the same direction introduced at this time was the discontinuation of grammar from reading and the institution of the new class-subject of "English." This subject had first appeared in the English Code of 1862.

The method by which an estimate of the value of the work was now to be formed may be made clear by a reference to the instructions to inspectors:—"You will" it is said "take into special consideration the quality of the work done, at the same time taking into account the skill and spirit of the teaching, the fitness of the classification in regard to age and capacity, the behaviour of the children, especially their honesty under examination and the interest they evince in their work. You will also make reasonable allowance for special circumstances" The step taken was avowedly a tentative one. "While we have thought it right to make this change we think it necessary to point out the additional responsibility which it throws upon all concerned, in order to prevent a change which is intended to promote simplicity of administration and to relieve pressure from becoming a source of substituting superficial for thorough work. Whether the latter result may follow can only be seen when the children so examined pass into the standards in which individual examination is still required."

The experience of the next few years removed all doubt on the score of possible deterioration of work. Testimony was unanimous that there had been no loss of thoroughness, but on the contrary a clear gain in intelligence of work, attention to points other than accuracy, and greatly increased interest on the part of the children. Accordingly the method of class examination was extended in 1880 to all classes and subjects in the school with the exception of "specific" subjects. The children in Standard V. were still examined individually in elementary subjects for the labour certificate which exempted from school attendance, but the grant no longer depended directly on the result of the individual examination.

The changes carried out in Scotland in 1886 and 1890 were adopted at one step in England in the latter year. The two Codes in their main provisions were then brought into general conformity, and as the provisions of both have remained substantially unaltered since, a comparison at this point between the arrangements of grants under the Scotch Code of that year, and the corresponding English management sanctioned in the preceding section, may be of some interest.

(1.) The grants for organisation and discipline, for music, and for needlework, were the same in both countries, the amounts being those already specified.

(2.) Grants for elementary subjects. The English principal grant of 12s. 6d. or 14s. was replaced in Scotland by a fixed grant of 10s. on the average

APPENDIX A.
XX

Final separation
of the Scotch
from the English
Education
Department,
1863.—Changes in
the Code of 1862.

Further changes
made in 1886

Comparison of
the English and
Scotch Codes of
1894.

APPENDIX A.

attendance plus a variable grant (in 3 grades) depending on the efficiency of the work.

For the purposes of the variable grant in Scotland the classes were considered in two divisions. In the classes in and under Standard III, payment was made at the rate of 1s. 2s., or 3s.; in the classes beyond Standard III, these rates were increased to 1s. 6d., 2s. 6d., and 3s. 6d., respectively.

In England all the classes were taken together for the purposes of the principal grant, which, moreover, was paid at two rates only. Some minor differences existed as regards the grants to infant schools and classes.

(3.) The rate of payment for class subjects (1s. or 2s. for each subject) was the same in both countries; but while in England only two of these subjects might be taken in any class, in Scotland it was permissible, and usual, to take three.

(4.) The payments for "specific" subjects—4s. for each subject—were the same, but presentations in these subjects were relatively much more numerous in Scotland.

(5.) Special grants for cookery, laundry-work, and dairying were offered on the same terms in both countries.

The principal modifications of this arrangement which have been made since 1890 are the following:—

(1.) In Scotland, in 1895, payment was no longer made for each class subject separately, but for the instruction in these subjects regarded as a whole. The quality of the mental discipline afforded was to be considered rather than the number of subjects taken up, and payment was made at a conjoint rate of 4s., 5s., or 6s. The object of the change was to obviate the tendency to cram the children with facts relative to a number of formal subjects, and to direct attention to the proper function of this form of instruction as a means of exercising the intelligence and awakening the interest of the children. In the words of the Code—"The success of the classification will be judged of as a whole from the point of view especially of its effectiveness in stimulating the interest of the children in the subjects taught, and in developing their intelligence." As a rule, the instruction should embrace the three subjects of English, Geography, and History, the latter being taught in relation to each other, but "an Inspector may recommend the highest grant where, with his approval, only two subjects in all have been taken under this head."

(2.) Another step of importance was made in the same year. Hitherto Elementary Science might be taken as a class subject, but in the competition with other subjects it had been somewhat rarely selected. An additional inducement to take up science was now offered in the shape of a grant of 1s. on the average attendance of the boys if they received satisfactory instruction in Elementary Science. This grant was parallel to the grant of 1s. on the average attendance of girls for needlework.

(3.) In 1897, as already mentioned, the grant on individual examination in specific subjects was abolished in England, and a payment for these subjects on the analogy of the classification was substituted. This step has not been taken in Scotland.

The several relaxations of the Revised Code since 1888 in Scotland, the greater freedom of classification thereby allowed, and the wider choice of subjects permitted, have as it were created a new atmosphere in the schools, and conduced to increased efficiency of work, even in the most elementary subjects. But they have had a further special result in the revival of the old Scottish tradition of higher education in the public schools. The attainment of that result has been greatly favoured by certain measures adopted by the Scottish Education Department, on its attaining an independent existence. One of these measures, more directly connected with primary schools, was the institution of the "Merit" Certificate in 1891. That certificate was not a pass certificate, like the Labour Certificate, but certified to thorough pro-

ficiency in the work of all the standards (both elementary subjects and class subjects), with, in addition, a pass in all the stages of one specific subject or in the two lower stages of two specific subjects. The attainment of this certificate, though no grant attached to it, became an object of ambition in good schools, and the certificate had a decided effect in stimulating advanced work.

Another measure—the institution of the "Leaving" certificate—had an even more potent influence in the same direction. The Act of 1873 placed the existing higher class Brough and Grammar schools under the management of School Boards. The action of the Education Department to these schools was at first undefined, but an Act passed in 1878 conferred upon the Department certain powers of inspection of higher class schools.

The problem, however, of the organization of elementary education, and the completion of the school supply of the country, at that time fully engaged the attention of the Department, and for that and other reasons the powers of inspection conferred remained dormant for some years. At length, on the completion of the scheme of the executive Commission on Educational Endowments, presided over by Lord Balfour of Burleigh, the Department, in 1885, instituted a system of higher inspection, which extended to all higher class schools, whether Brough schools, Endowed schools, or schools under voluntary management. In connection with this higher inspection, there was instituted a system of Leaving Certificate examinations, which afford a test of individual proficiency in the usual subjects of secondary education. The Leaving Certificate was originally and essentially a certificate for pupils in secondary schools; but as, no time in Scotland has the line of distinction between primary and secondary education been very rigidly drawn, and the examination for these certificates was soon thrown open to pupils in those primary schools which made some provision for higher education.

The subject of these certificates—the Merit Certificate and the Leaving Certificate—is somewhat outside of the scope of this Memorandum, and they are mentioned here because the undoubtedly quickening influence which they have had on the schools seems to convey a very useful lesson. There can be little doubt that one main element—if not the secret—of the beneficial influence which the examinations for these certificates has exercised has been the stimulus they afford to individual effort on the part of the children. The interest of the children is a factor of school success which almost infinitely outweighs mere exertion on the part of the teacher. It is the prime mover in school work. Great activity, perpetual illustration and explanation, even great power of discipline and the application of the best Training College methods, will accomplish little in appearance and nothing in reality without this prime requisite of interest on the part of the children. And, in fact, the best teachers do owe their success to the faculty which they possess of quietly cultivating the sympathy of the children in their work. The interest should, of course, if possible, be intrinsic; but no one but a doctrinaire will expect an appeal to legitimate extrinsic interests, and it needs but little experience of children to show that in their case the two sources of interest—intrinsic and extrinsic—are, for the most part, inextricably blended.

No system of inspection alone can ever provide this invaluable stimulus. On the other hand, though individual examination was the distinguishing feature of the revised Code, that Code made its appeal to the teacher and not to the children. It relied for its motive force, not on the examinations, but on the payments attached to successes. Not only did it fail to engage the interest of the children, but it seemed to put a premium on the disregard of those wider educational considerations which cannot be sufficiently tested by examination alone. Now, the individual

Subject-matter modified.

General result of the changes introduced in Scotland in 1895 and 1897.

The "Merit" Certificate.

The "Leaving" Certificate.

Educational influence of Examinations.

Individual examination of the revised Code.

examinations for the certificates referred to differ essentially from the individual examinations of the revised Code in that they are voluntary, and that no payment attaches, at least directly, to success; and the beneficial influence which they have exercised seems to indicate that it may be quite possible to secure for schools all the stimulus which individual examination affords both to children and teachers, while paying grants on an entirely different basis.

One more change remains to be noticed. The Scotch Code of the present year contains a provision which will permit the definite examination of a school at the end of the year to be replaced by inspection throughout the year to such extent as may be thought to be desirable. It is too soon to say what may be the effect of this change. The relative functions of inspection and examination have been briefly indicated in the preceding section in connection with the similar change under the English Code. The considerations advanced in the immediately preceding paragraph of this section have also an obvious bearing on the question. But one circumstance will, for the present at all events, differentiate action under the two codes. It is this—by another change in the Scotch Code of this year the requirement of some knowledge of specific subjects has been dispensed with as a condition of the

'Merit' certificate already referred to. In other respects the requirements are as before; but the change virtually makes the certificate a "leaving" certificate for elementary schools, indicating that the course of elementary studies has been satisfactorily completed. The "Merit" certificate in its present form is one which every child who has passed through the 6th Standard may at least try for, and nothing less will be regarded as a satisfactory conclusion of the elementary school course. The examination for this certificate is of course individual, and will necessitate something of the nature of a fixed examination in every school. No grant depends upon it, but the results obtained therein in each school will be a useful, if imperfect criterion of the ultimate outcome of the work of the school. The stages by which this final result shall be obtained is a matter which, perhaps, may be left more than at present to the direction of Managers and teachers; and the question of the proper grading of the subjects in the lower classes, and due progress at each stage, the proper balance of these subjects in every class, the spirit and method of the teaching, and above all those less tangible qualities which constitute what has been called the school atmosphere, are matters which may properly be left to be determined by inspection at visits without notice.

APPENDIX A
11

Individual examination at the conclusion of the Elementary Course retained in Scotland.

System of "Inspection."

APPENDIX B.

REPORTS BY ASSISTANTS.

[*Note by Secretary.*—On July 30th, 1897, the Commission appointed the following Assistants to visit the Continent for the purpose of obtaining information:—

Mr. ALFRED PURSER, Head Inspector of National Schools.

Mr. T. W. ROLLESTON.

Mr. A. N. BONAPARTE WYSE, M.A., District Inspector of National Schools.

Mr. E. J. HUGHES-DOWLING, B.A.

The following is a copy of the instructions given to each Assistant:—

INSTRUCTIONS

To ASSISTANTS appointed to visit the CONTINENT for the purpose of obtaining information for the COMMISSION.

APPENDIX B.

I. Mr. Alfred Purser and Mr. T. W. Rolleston will visit Germany, and if they deem it advisable, the German-speaking Cantons of Switzerland, and Holland.

II. Mr. A. N. Bonaparte Wyse and Mr. E. J. Hughes-Dowling will visit France, Belgium, and the French-speaking Cantons of Switzerland.

III. Each pair of Assistants will start together, as soon as possible after September 1, and will call on Her Majesty's representative at the Embassy or Legation of the country visited, with a view to obtaining facilities for an interview with the Educational Authorities of that country. The Foreign Office has been communicated with in reference to this matter, and Her Majesty's representatives in the various countries have been instructed to give every assistance in their power.

IV. The Assistants will consult the Educational Authorities of the country visited, as to the best places for seeing manual and practical work in operation in primary schools. They will, if possible, visit the places so recommended. Subsequently they may visit other centres if they deem it desirable to do so.

It is left to the discretion of the Assistants as to whether they will remain together or work separately.

V. Each pair will, as far as possible, report jointly, and the reports will deal only with facts.

VI. The duration of the employment of each assistant is limited to five weeks.

VII. The duties of the Assistants will be—

1. To inquire into, and report on, manual and practical instruction in the primary schools of the country visited, with special reference to the teaching of the following:—

(a.) Kindergarten.

(b.) Advanced Kindergarten occupations and hand and eye exercises, suitable for children up to eleven years of age.—e.g. —

(i.) All kinds of paper work, tearing, folding, cutting.

(ii.) Brick laying.

(iii.) String work.

(iv.) Drawing and colour work.

(v.) Cardboard work.

(vi.) Wire work.

(vii.) Clay modelling.

(viii.) Basket work.

(c.) Manual work in wood, metal, &c.

(d.) Physical exercises, drill, &c.

(e.) Drawing.

(i.) Geometrical, freehand, brush-work.

(ii.) How taught in connection with manual work.

(f.) Elementary science (including equipment and laboratories).

(g.) By object lessons.

(h.) By experiments.

(i.) Agriculture (as taught in primary schools), including the sciences underlying agriculture.

(In France, special attention should be paid to the working of the new scheme for teaching elementary agriculture in rural schools.)

(A.) Needlework.

(i.) Kinds taught;

(ii.) Supply; and

(iii.) Disposal of materials.

(j.) Cookery.

(k.) Laundry.

(l.) Housewifery.

(m.) Domestic economy.

(In Belgium, attention should be paid to the special schools for teaching housewifery, &c.)

2. To inquire how the foregoing subjects were introduced, and to ascertain whether any literary subjects were omitted or curtailed to make room for practical subjects.

3. To inquire as to expense of instruction and equipment as regards manual and practical work, and as to what funds are available for the purpose.

4. To inquire, with regard to practical subjects, as to how the materials are supplied and how the products are disposed of.

5. To inquire whether practical subjects are taught by ordinary teachers, and, if not, how.

6. To inquire as to the time devoted to practical subjects, and to procure typical school time tables.

7. To ascertain the relative number of schools where practical subjects are taught; the classes to which they are taught, and to inquire as to the age of the children in the various classes, especially in those in which instruction is given in manual work in wood or metal.

8. To inquire into the syllabus in each practical subject, and to ascertain if it is detailed or otherwise.

9. To inquire how far instruction in practical subjects is compulsory.

10. To report briefly on the system of inspection of primary schools in the country visited.

11. To inquire into the methods of training teachers, especially in the foregoing subjects,

(i.) In Training Colleges.

(ii.) After the teachers have left college and are engaged in the work of a school.

12. To inquire into the system of paying teachers.]

APPENDIX B.

REPORTS BY ASSISTANTS.

I.

REPORT ON MANUAL TRAINING IN SCHOOLS IN NORTH GERMANY AND HOLLAND.

By MR. A. PURSER, Head Inspector of National Schools.

The subject of manual training of boys in schools has engaged considerable attention in Germany during the last twenty or twenty-five years. The first stimulus came from Finland and Sweden, reinforced by French law of 1883. In several states and larger towns of the Empire associations have sprung up for the furtherance of it. Workshops have been opened, and an earnest endeavor made to lead to a general adoption of such training in at least the higher classes. In 1887 the "German Association for Boys' Manual Work," about ten years ago, established a training college in Leipzig for the purpose of qualifying teachers to undertake such instruction in their schools. In 1896 the association was able to open a new and suitable building for their courses, which before had been held in small make-shift rooms used also for the boys in Leipzig, who attended classes. This new building, which cost about £3,500, stands on a piece of ground worth £2,850, given by the town, which also made a special grant of £300 for furniture and tools. About 1,200 teachers have been trained in Leipzig, a considerable proportion from foreign countries, especially England. Teachers are also trained in various centres, about twenty-three in number (such as Berlin, Dresden, Götting, Neurude, and in some training colleges, &c., &c.), where classes have been set up for boys.

The following are the subjects most generally taught:—

- (1.) Preparatory—paper, cardboard and light woodwork.
- (2.) Pasteboard work.
- (3.) "Chip" work.
- (4.) "Beach" work.
- (5.) Wire and metal work; to which in a few places may be added
- (6.) Modelling in clay, glasswork, &c.

Of these (2), (3) and (4) are much the most usual.

The total number of institutions in Germany in which boys receive instruction in manual work is about 600, of which 400 are in Prussia. Of the 600, 225 are held in their special homes, 159 are in connection with primary schools, 53 with higher schools; in none of these cases necessarily attended only by pupils of the school in which the classes are held. Of the remainder, 189 are held in institutions such as asylums for blind, continuation schools, &c.

This instruction is not compulsory in schools in any part of Germany, except a small district in Silesia (Neurude); and in fact it cannot without special permission be introduced into the ordinary school-course except in Baden, where it and domestic economy for girls have been recently added by law as optional subjects in primary schools. The Götting

educational authorities lately petitioned to be allowed to make these two subjects compulsory (*i.e.* part of the ordinary school course) which pupils of the highest class of five schools should be bound on penalty of a fine to attend, but the "Regierungs-Präsident," a sort of senior Head Inspector for a province, refused, stating it would be allowed only as an optional subject to be taught outside school hours.

Trustworthy statistics on the matter can scarcely be procured, as the instruction is not a part of the government programme, as the localities in which it is taken up are scattered, and as new classes are frequently opened, while others are closed. But it is quite evident that the proportion of primary school children receiving manual instruction is very small—even in Berlin it does not amount to one per cent.

Its introduction has been sought on two grounds, (1) the economical advantage in after life of having cultivated the use of hand and eye; (2) the educational training involved. The latter is the ground on which its introduction is mainly defended by German educationists, and for this reason it is always maintained that the instruction should be given by trained teachers who are acquainted with the pedagogic principles and can apply them. To this there are but two exceptions in all North Germany, so far as I know: one is at Osnabrück, and the other, strangely enough, at Leipzig Training College. This apparent anomaly in case of the latter is explained by pointing out that the persons under instruction are not children, but trained teachers who though they may be taught by more workmen will be careful to make their own teaching strictly conform to pedagogic principles. The defenders of manual training are earnest and enthusiastic men who are fully convinced of the intellectual advantages of its introduction into the ordinary school curriculum, which would be practically of no personal benefit to themselves, but rather add to the weary of their ordinary literary school duties. They naturally point to the advantage girls have over boys in this matter. The opponents, who are equally sincere and as yet far more numerous, justify their opposition on grounds that appear to them not less sound. Even educationists of repute, such as Professor Rehn, Doctor Seyffert, &c., &c. take different views on the subject. So the educational world of Germany looks upon the matter as still open to debate, and while it is in this state the school communities and the Governments refuse to take any decided steps as to its compulsory introduction, and limit themselves to giving some small money contributions to associations having the development of boys' manual training for their object.

My visit to North Germany extended from 6th September to 3rd October, and to Holland from 4th

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to 7th October inclusive. The places visited were (in Germany) :—

Berlin
Görlitz
Neurode district (in Prussian Silesia).
Dresden.
Cönnitz
Leipzig.
Dessau and Köthen (in Anhalt).
Deitsch Training College (Prussia).
Weimar and Gotha.
Hildesheim.
Osnabrück.
Münster, and (in Holland),
The Hague.
Wageningen and
Goes.

Before giving particulars of what came under my notice, I think it well, in order to make matters plainer to those acquainted only with Irish education to point out some of the main differences between Irish and German educational systems.

The primary schools in North Germany and Holland are graded, and vary considerably in character. The people as a rule live in villages and towns and have schools taught by several teachers. Only in certain parts, such as Posen and Westphalia, are schools taught by a single teacher very common. In other parts the schools are almost invariably large, and may have a staff varying from ten or twelve up to sixty teachers, according to the number of pupils.

In Holland the parents are not bound to send their children to school, but in Germany attendance is everywhere compulsory by law; parents are fined or imprisoned if children are absent a day or two without valid cause. There are several advantages in this law. Teachers' work can be made more systematic and effective, pupils' progress is more regular and graduated.

The children are admitted to the school of the district in which they are living either at Easter or Michaelmas (or at Easter only in smaller localities), and all who have reached six years of age (or who will reach six years within three months) must begin school at one of those dates unless excused on account of delinquency. The law recognises no difference between rich and poor, all must go to school when six years old, or be taught at home by recognised qualified teachers. How small the number taught at home is may be gathered from the fact that in wealthy Saxony only 600 children out of a population of nearly 4,000,000 are taught at home by 255 teachers. The minimum period of school attendance is about eight years, to which some states (Saxony, &c.), add several years of evening continuation schools.

There are various classes of day schools—*Völk- or Gemeindegewerkschulen*, corresponding to our primary schools, *Berufsschulen*, intermediate schools not clerical, and *Gewerkschulen*, technical schools which prepare for universities and professions. Children going to these higher schools generally leave the primary school about the fourth class, but in some cases begin in the higher schools. Primary schools are of different kinds. It is recognised that a small country school having one or two teachers cannot be conducted exactly the same as a large town school of 1,200 children, and that a poor locality able to support only one teacher, even though there may be eighty children to instruct, must make different arrangements from those that obtain in a place where ample means for paying teachers are forthcoming. There are then the single-class school; the half-day school (in which the different divisions attend at different hours); the school with two teachers; and the school with three or more teachers. In each of these the pupils are divided into two or more (in Prussia into lower, middle and upper) stages, the children of which must attend weekly from fourteen (in Prussia from twenty) to thirty-two hours according to their classification and to the kind of

school. In large towns a more advanced school may be recognised. French is added to the course of instruction, and pupils remain a year longer at school. In populous places the children are concentrated as far as possible, so as to allow a teacher for every class, and in large towns for every subdivision of a class. In no case is the setting up of little schools with twenty or thirty children each in one locality sanctioned; but where it can be done without this excessive subdivision, schools are provided for different religious denominations. In large towns the newer school-houses are palatial buildings, containing beside the ordinary school-rooms a director's apartments, a teachers' conference room, rooms for apparatus, a general hall for school gatherings, a special room for drawing, a large gymnastic hall, and in many cases a room for shower-baths.

The hours of attendance vary a good deal. The junior children attend fourteen to twenty hours a week, the seniors up to thirty-two hours. These include the time given to religious instruction. School generally commences at 7 o'clock in the morning in the summer half year, and at 8 o'clock in the winter half year. In Berlin and some other places work goes on from 7 to 12 o'clock in summer, and children do not return in the afternoon, except an odd class for needlework or gymnastics (*Turnen*). In other places (e.g., Leipzig) school goes on from 7 to 11 o'clock, and children attend again in the afternoon from 2 to 4 or 5 o'clock, except on Wednesday and Saturday which are half holidays (in Münster on Tuesday and Thursday).

Most lessons are about an hour in length. In Berlin there is a short pause of five or ten minutes between the lessons, and a longer one of fifteen minutes in the middle of morning school. In other localities there is only one pause of about twenty minutes in the middle. For the youngest children these rules are not rigorously adhered to, and it is left to the teacher's discretion (subject to the director's approval) to break off work for some minutes, and even to let the children out for a run in the playground if he notices signs of weariness.

In the higher schools the *agendae* is kept in a special room. What is required for any particular lesson is got beforehand and brought to the school-room.

Books used are very few—a reader, a book of arithmetical problems, a song-book and four exercise books (one for taking down daily lessons, one for head-line copies, one for dictation and composition, and one for drawing are all that are required).

All teachers are obliged to be trained and classed except those teaching needlework (religious orders are not recognised as teachers). They are all able to teach the whole ordinary school course (extra subjects are not allowed), though sometimes permitted to choose special subjects. Each one is put in charge of a class or division. In large schools, those having six or more teachers, there must be a director (*Inspektor*), a kind of head master and inspector, who has to pass a special examination for his position. The director draws up the time table, corresponds with the authorities, and exercises a general supervision over the school, in return for which his number of teaching hours is reduced. Salaries begin at a minimum and rise by fixed increments to the maximum, but these vary in different localities, it being recognised that in cities and manufacturing districts the expense of living is greater than in an ordinary rural district, and that therefore a rate of payment (to choose a corresponding Irish case) say in Berlin may be really quite equal to a nominally higher rate in Dublin or Belfast. Male teachers give not less than twenty-eight hours instruction every week, female teachers twenty-four hours. Our system of classification and payments seemed to afford the Germans a good deal of amusement.

Pupils are generally promoted at Easter and (or) Michaelmas, generally on the report of the ordinary

class teacher and director who examines where he thinks fit necessary. The Inspector visits the schools as frequently as he can, in Berlin he examines all schools every three years, but not necessarily every class in all subjects; in some places he examines absent. He has to revise and certify all Time Tables and programmes, to hold inquiries, &c. This applies to Government Inspectors; but in Prussia a large proportion of so-called inspectors are what we call managers—generally degenerate who hold the position as a secondary office. In Saxony the whole country is divided into fifty Government inspection districts.

The expenses of education are borne mainly by the locality; Government pays the teachers' pensions, and in poorer places gives a grant in aid. Widows and orphans of teachers are also entitled to pension.

The following are the subjects which must be taught in all schools:—

- Religion
- German (including Reading and Explanation, Grammar, Composition, Spelling, and Writing).
- Arithmetic and Elementary Geometry (Measurement).
- Geography and "Heimatskunde" (knowledge of neighbourhood).
- History.
- Natural History (Botany and Zoology); Object lessons (Anschauung) in junior division—generally in summer.
- Natural Science (Physics and Chemistry)—generally in winter.
- Singing.
- Drawing.
- Gymnastics (compulsory for boys, not for girls, but generally taught to them in larger towns).
- Needlework (for girls).

Considerable latitude as to the extent of instruction given in each of these subjects is allowed by the Central Governments to the localities, and to the teachers and inspectors. The law lays down merely a general summary of what is to be taught. In larger towns the school authorities (consisting of specialists) draw up the detailed programme; in other cases this has to be done by the director or head teacher of the school, who submits it, as well as his Time Table to the Inspector. In Prussia even a monthly or weekly division of the school course has to be made out and submitted, and a daily or weekly noting of every lesson taught has to be kept by the teacher. It is practically only in the larger schools that the full programme is completed.

School fees are charged in some schools, not in others, but in all cases parents are taxed to support communal institutions, including schools. One teacher told me his annual income was between £150 and £200, and that he paid £15 in school town taxes. The amount spent on schools and education is enormous.

1. Adverting now to the points I was directed to inquire into (§ vi. of Instructions to Assistants), and omitting from consideration the special schools and classes established for the sake of children intellectually weak (Görliitz, Dresden, etc.), I have to report (a) that in Primary schools of both countries visited by me, there is no Kindergarten, and (b) no advanced Kindergarten occupations of any kind, and no manual work in wood, metal, etc., in any part of North Germany except in the small district of Neurode in Silesia. (c) Manual work in wood is indeed taught in many places—sometimes in special houses, and sometimes in rooms belonging to Primary schools, but in forms no part of the ordinary school curriculum except in Neurode.

(d) Physical exercises, gymnastics, drill, etc., are obligatory in all boys' schools in North Germany; in town schools the girls generally have drill, etc., but it

is not compulsory, and in country schools such instruction is very rare. In Holland it is being gradually introduced.

(e) Drawing is an ordinary school subject in all schools, and is generally begun in the third or fourth school year. It is always freehand (model drawing is taken up only in the highest class in large town schools) with a certain amount of colouring, but this is not obligatory. Geometrical drawing is taught not in connection with the ordinary drawing lesson, but in connection with Geometry. It should be noted that Euclid's elements are never used, and that pupils learn practical geometry and measurement. In Neurode drawing, geometry, and manual work are connected as much as possible in teaching, but elsewhere drawing enters very little into connection with manual training except in so far as pupils have to sketch the wood-carving patterns on their boards, or make designs for their pasteboard work.

(f) Elementary science (omitting the natural sciences) is limited to physics and a little chemistry. Laboratories I have not seen in any primary school, but all the larger town schools have a fine supply of physical apparatus. This is provided out of annual funds provided by the school committees for the purpose. Of course small village and country schools have little or none, and in these instruction is mainly given by object lessons and in such parts of physics as can be taught with little or no special apparatus. In the large town schools experiments form a considerable element of such instruction. There are, however, evening continuation and technical schools which have laboratories, and in which chemical and physical instruction is carried much further than in the primary schools.

(g) Agriculture is not taught in any primary schools in North Germany or Holland. Some little growing of plants about the schools is carried on chiefly with a view to object lessons and botany, and to a small extent boys in country places are taught something of budding and grafting fruit trees.

(h) Cookery is taught in some places (Berlin, Neurode, Chemnitz, &c.), and laundry work I found also in Neurode and Chemnitz. Housewifery and domestic economy are combined with cookery. These subjects are taught practically, never in theory only. In Berlin the cookery classes are optional; in Neurode and Chemnitz they are compulsory. In all cases the number wanting to learn is greater than the number that can be taught, so that compulsion is unnecessary. The courses last a whole year generally, and only girls in their final school year are admitted to the courses.

(i) Needlework is compulsory in girls' schools wherever a teacher can be got to give instruction.

In Neurode manual work has been combined with drawing and geometry, and any extra time required for it beyond what was taken from them, has been added on to the ordinary school hours. For the lessons in cookery, there and elsewhere, half the time has been taken from needlework, and half has been added on to the usual school hours.

2 and 3. Most of these classes have been started by voluntary societies or associations, which still afford the main part of the necessary funds for their support. Government gives little or nothing. The municipalities generally give rooms, light, fuel, and occasionally a small subscription. In Chemnitz the whole expense of the cookery classes (250 children are taught every year) is borne by the town. In some cases the fees paid by the children form an important item in the budget of these classes. The teachers are paid on a fairly liberal scale; all other expenses are kept as low as possible. The total cost of the cookery lessons, including teacher's salary, does not exceed 3d. or 6d. per child for each lesson of four hours.

4. As regards needlework and woodwork, &c., the materials are in general provided by the children or paid for by their fees, in return for which the children take home the finished products. These are never very considerable. For instance, in case of needlework,

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the girls never make more than one garment in the year. As regards cookery, the products are in part consumed by the class, in part sold, or given to the poor.

5. Needlework is, in most cases, taught by special workstresses, but the certificated teachers sometimes help in the teaching. Cookery is taught in Berlin by ordinary certificated teachers; but in Neurode and Chamsnitz by special cookery teachers. Boys' manual work is, in all cases, taught by the ordinary trained male teachers, except in Osnabrück, where carpenters are employed to teach woodwork.

6. Needlework is generally taught from two to six hours a week, according to the circumstances of the school and the classification of the children. Cookery lessons are usually given only once a week to each class, and last four hours at a time. Boys' manual training classes generally have two hours' instruction in the week, in addition to two hours for drawing. [Time Tables of a fair number of schools are handed in.]

7. Drawing and needlework are, in most schools, begun in the pupils' third school year, when the children would be between eight and nine years of age. The cookery classes are attended only by girls in their final school year, that is when these girls are in their fourteenth year. Boys attend manual training classes from eight years of age upwards; pasteboard work is generally taken up when a boy is nine or ten; carpentry, when he is ten or twelve years of age. The total number of establishments of all kinds in which boys of school-going age (six to fourteen), get manual instruction is only a little over 600 in all Germany. In Neurode district, the only place where manual training is compulsory, fourteen schools out of forty-six have classes in pasteboard and woodwork.

8. In all cases the teachers carry out a detailed programme, but it varies in different places, not only as regards the subjects taught, but also as to the articles made, and the order in which they are made. These matters are left to the discretion of every teacher.

9. Instruction on practical subjects (omitting needlework) is quite voluntary. The only exceptions to this are the cookery classes in some localities, which are attended only by girls in their final school year, and the boys' manual classes in Neurode district. I have been given to understand that if any parents or teachers in the latter place set themselves against this manual instruction it would have to be given up.

10. In Saxony the whole country is divided into fifty Government inspection districts.

In Prussia and other North German States only some districts have regular Government inspectors. In the province of Brandenburg, for instance, there are no Government inspectors except in Berlin, and even there they are appointed by the municipality; the Government merely confirms the appointment and gives them their title; in Silesia, there are about fifty in two divisions of the province, only one Government Inspector in the other. In all cases there are many local inspectors whose position is somewhat analogous to that of manager in Irish schools, except that they have not the power of appointing or removing teachers. The local inspectors do not examine the schools. The Government inspectors in country districts examine all their schools every year and visit frequently. In the larger towns these inspectors visit as often as they conveniently can, see some classes at work, and have conferences with the directors (in Berlin three or four times a year). In Berlin the inspectors examine their schools partly fully once every three years. This examination has nothing to do with the children's progress from class to class. As children are admitted only at Easter and (or) Michaelmas, promotions take place at the same time, and depend on the judgment of the class teacher and director. The latter who holds a position of

head master and overseer has the right to examine all the classes. In the very large schools he need not have any classes assigned to him, but in smaller schools he teaches twelve hours a week. In Saxony every school having six teachers must have a director (or "rector" as he is called in Germany).

11. There are two systems of training in North Germany—(1.) The Saxon, in which the students after leaving the primary school at fourteen years of age spend at least six years in a training college. (2.) The Prussian, in which the pupils go for three years after leaving the primary school to a preparatory institution before entering the training college for another three years. In Saxony the arrangement for female teachers (of whom there are very few) is somewhat different. It is only during the last two years of training that these students are allowed to practice teaching.

In a few colleges (one in Prussia and seven or eight in Saxony) instruction in pasteboard and carpentry work is given to some classes, and in a couple of cases (Cottbus, for instance) instruction is also given in wire, iron, and glass work. At Osnabrück the students in training attend Sloyd classes outside the college.

There is a central institution in Leipzig for training male and female teachers in various branches, including Kindergarten, pasteboard work, "chipping" or chip-carving, carpentry and iron work, etc. The classes last four or five weeks, and are attended by over 100 teachers every year. Teachers also get instruction in manual training in twenty-three other centres where boys have classes, but the course of instruction is less formal and complete than in Leipzig. These teachers' classes are generally held in the evening or during school vacations. In Leipzig the classes go on all the summer half year. Teachers who attend them are given special leave of absence from their schools, and have their expenses paid by Government or municipalities.

12. There is no fixed scale of payment for teachers. The law lays down a minimum (different in different States of North Germany), generally about £50 a year, and requires a progressive salary according to length of service. In poorer country districts the minimum only is paid—this would be about £50 at the beginning, rising to nearly £100 before the end of forty years' service. The teachers have also a free residence or an allowance for rent, and receive a small additional salary for all church duties they are called on to perform. In larger towns and localities where living is dearer, much larger salaries are paid; for instance, in Berlin, the salaries for male teachers has just been fixed at £20 when appointed, rising to £200 (including rent allowance), service in public schools outside Berlin counting towards increments. The salary of a director is, of course, higher. These salaries are paid monthly, in advance. Teachers, their wives, and orphan children (up to fourteen years of age), are all entitled to pension.

These matters will be found treated in detail in the daily account of my visit to German and Dutch schools.

Here I may add the Leipzig estimates for setting up classes of fifteen pupils each in the following subjects. These estimates do not include tables for working at—

	£	s.	d.
Iron work	10	0	0
Pasteboard work, about	7	0	0
Chip carving	5	10	0
Beach work, including cost of carpenters' benches	31	0	0

The Berlin estimate for fitting up a class room for light woodwork, including cost of tools for twenty-four boys, is £4 11s.

SUPPLEMENT TO THE FOREGOING REPORT.

DIARY of Mr. PURSER's work in GERMANY and HOLLAND.

Sept. 7th and 8th. Visited the 190th Gemeinde (Communal or Primary) School in GRAUD STR.:
Director, Dr. Wicklem.

The director received me very civilly and gave me a considerable amount of information. His school contains twenty-two classes, and has an attendance of about 1,200 children, which gives between fifty and fifty-five to each class. This appears to be the normal number for a class in Berlin; in Leipzig the number is about forty. This school has but eighteen regular class rooms, consequently there are at least four "flying" classes, that is, classes that move about from room to room, according as any of them become vacant by the classes going to drill, or to drawing, or (in case of the younger children) by their going home. It is an arrangement which has its origin in a desire to save the expense of additional rooms and buildings, but is felt as a serious interference by the teachers, and considered injurious to discipline. The classes attend from 7 to 10, 11 or 12 o'clock, according to the age of the children (an hour later in winter); and some classes attend an hour or two during the afternoons of Monday, Tuesday, Thursday, and Friday, for gymnastics and drill. Wednesday and Saturday afternoons are free. The children come to school at six years of age, and have to remain at school eight years. As there are only six classes, some children remain a year and a half, or even two years in a class, but some clever children reach the highest class in six years, and then form a sort of senior first class, learn the whole programme thoroughly, and in some subjects may even go beyond it. The pupils who spend only one year in the highest class do not compass the whole course.

In the daily lesson there is a short pause of five or ten minutes towards the end of each hour, and a longer pause of fifteen or twenty minutes about the middle of morning school. The little ones are let out either if necessary, and are not very strictly tied by the arrangements of the time table. The children attend very punctually, and are ready to take their places at the stroke of the clock. The names of absentees are written on the blackboard in each room, and a list of them is furnished to the Director, who hands them over to a town officer for inquiry and subsequent action.

Male teachers, except the older ones, have to teach twenty-eight hours a week (a director teaches twelve hours); female teachers do not exceed twenty-four hours. In the 190th Primary School (boys), there is only one female teacher; in girls' schools about two-thirds of the staff are women. All male teachers have undergone what is virtually a six years' course of training, and are able to teach the whole course, but should any one of the staff show special aptitude for teaching Singing, Drawing, Botany, Physics, &c., and should he desire to teach any of these to another class beside his own he can be allowed to do so. (See for instance "Occupation of Teachers in 124th Primary School," where Herr Krell takes Singing in six classes, in 73rd Primary School, where Herr Bort takes Drawing in three, &c.)

Kindergarten does not enter into the course of any primary school in Berlin or Potsdam. There is no manual training of any sort, except drawing, allowed during ordinary school hours in any boys' Primary

school in Berlin. [See visit to a pupils' workshop on 8th September.]

The schools are all under the control of the municipality of Berlin and the schoolhouses built by it. At the end of 1896 there were 311 Primary schools, there are now 313. They are very fine buildings for the most part, and the newer ones fitted up with many conveniences, including shower baths. These are placed in the lower part of the house. The temperature of the water is carefully regulated by the attendant (30° Celsius is prescribed). In the 190th School it flows from fourteen double rooms, so that twenty-eight children can have a bath at a time, and about three batches can get a bath in an hour. Every class gets one once a week, free of charge. There is no compulsion, but bathing is encouraged, and the children delight so much that a child scarcely ever stops away from it.

In the matter of apparatus the school did not appear to me as well supplied as the schools I visited in Leipzig last year.

The Director informed me that each Berlin Inspector had about thirty Primary schools to look after, that would be about 35,000 children. He visits three or four times a year, but does not necessarily go through the classes, his visit may be merely to the Director to inquire into the affairs of the school. He examines the whole school (or the greater part of it) once every three years, but not every class in every subject; and in many cases the classes are examined before him by the ordinary teacher.

I heard a class at reading and explanation. The reading was pretty fair. The answering on the lessons was sometimes given in single words, sometimes in complete sentences, especially when a summary of a paragraph was asked for. Full sentences seemed very necessary, as a considerable number of boys used bad grammar, which the teacher was very careful to have corrected. He also gave a lesson in geography, which contained nothing unusual except very strong statements as to the immense value English colonies had been to the mother country. In another room I heard a lesson in Botany. Specimens of the plants were shown; some of them had been got from the Botanical Gardens. Their uses were mainly dwelt on and impressed on the pupils' minds and memory. Only the common German names were used.

Drawing is taught almost entirely from the flat; in the highest class the boys draw also from objects.

In the afternoon I visited the "Second Pupils' Workshop" in Brunnen Strasse. This is one of five workshops for boys maintained by the Berlin "Association for Boys' Manual Training" and is held in a special house, for which a rent of £60 a year is paid. The other four are held, two in "Gymnasien" and two in primary school-houses, in which special rooms are granted for the purpose by the municipality. Instruction is given in three in the winter half-year twice in the week—namely, on Wednesday and Saturday, from three to halfpast four o'clock; in the summer half-year once a week, for two hours—namely, on Wednesday or Thursday afternoon. The

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subjects taught, and the school fees (which include payment for material and use of tools), are as follows:—

	Fees for Half-year	
	Winter	Summer
(1) First Preparatory Course—Paper, cardboard, and red work, for boys from 8th year upwards.	8 8	4 8
(2) Second Preparatory Course—Easy woodwork for boys from 10th year upwards.	6 8	4 8
(3) Pictorial work for boys from 11th year upwards.	6 8	6 8
(4) Woodcarving (chipmunk) for boys from 12th year upwards.	10 8	6 8
(5) Bench work (carpenter) for boys from 13th year upwards.	10 8	6 8
	£	£
Balance of former account.	75 0 0	
Grant from Education Department.	15 0 0	
Grant from Municipality, Berlin.	90 0 0	
Fees from Pupils (288).	71 16 8	
School fees.	329 19 8	
Berlin Exhibition.	150 0 0	
Wardens.	4 8 0	
	£641 2 0	

The total amount spent by Berlin municipality on primary schools in 1896-7 was £533,800; total grant for manual training was £90, exclusive of the amount spent on technical schools. The Association recently petitioned the municipality to allow as an experiment the introduction of manual training as part of the ordinary course in a "Real" and in a primary school; the reply was a curt refusal, and a notice that the continuance of the grant of £90* was a matter would have to be considered. The Government grant, too, that figures in the foregoing account is also not a fixed annual payment. The Association probably owes the receipt of this sum to the fact that its patron is the Emperor Frederick.

Though Berlin does so little in support of manual training for boys of school-going age, it supports a large number of technical schools. There are at least twenty-six trade technical schools (including those for barbers, bookbinders, chimney sweeps, &c.), five continuation schools for grown-up persons, twelve for boys and eight for girls; sixteen technical continuation schools, some of which are in operation in winter only.

Of private establishments connected more or less with education, there are in Berlin twenty-five kindergartens, forty-two *mädchen*, six *Oberlin* schools (infant schools), eleven "Horien" for boys and girls, and ten specially for girls.

Berlin children do not pay any school fees in the primary schools; outsiders who attend them have to pay 2s. 6d. a month.

All departments of the "Second Pupils' Workshop" are taught by ordinary primary teachers. When I visited six (including one female teacher) were learning paper-work, eight (including two teachers) were at pictorial work; twenty were at easy woodwork or "chipmunk," several being teachers; and six (including two teachers) were at carpentry. Some of the work done was fair, but good finish did not seem enough insisted on. "Chipmunk" was done with one hand instead of both hands, as taught in the Leipzig Training College; the course is that promulgated by the college. For all subjects there is a carefully arranged detailed programme. The course of easy woodwork is more developed in Berlin than elsewhere (plates are sent in showing some of the articles made). The estimated cost of necessary tools,

Pupils enter for at least a half year. The number of pupils in the five workshops during the year 1896-7 was, for the summer half year, 513; for the winter half year, 488, to which may be added as receiving manual training 240 boys in "Horien" (rooms or houses in connection with schools in which boys and girls spend their afternoons under proper supervision while the parents are at work). Of these 488 pupils, 337 belong to primary schools, the rest are boys from higher schools and teachers who wish to qualify themselves in manual work. Considering there are over 92,000 boys in Berlin primary schools the number that attend manual training classes must be pronounced very small. The comparatively high fees are to the average working family simply prohibitive. A few children are admitted free, the Association defraying all expenses for them. The income and expenditure sheet of the Association for last year was as follows:—

	£	£	£
Training, &c.	20 11 0		
Teachers.	242 4 0		
Material.	84 18 0		
Rent, &c.	16 0 0		
Berlin Exhibition (expenses of staff).	127 15 0		
Burses.	67 15 0		
Burses.	3 3 0		
	£641 2 0		

including work-tables, for a class of twenty-four pupils is only £4 11s. for this course.

All articles made by the pupils are taken home.

Berlin teachers are not as a rule favorable to the introduction of manual training into the course for primary schools. This was acknowledged by Herr Greppler, who conducts this boys' workshop; and several directors told me they considered it would be impossible to introduce it.

9th September.—I visited 21st Primary School

Director Schinzing was examining for promotion at Michaelmas a class in German (Reading and Explanation, and Grammar) in presence of the ordinary teacher, and the teacher of next higher class. The pupils answered well, and spoke out clearly and distinctly. The examination in Grammar was on etymology and analysis—on the whole the pupils acquitted themselves well.

I next saw the first (the highest) class at drawing. A so-called "auxiliary" pattern was on the black board, which the girls drew with moderate success. They were allowed to use strips of paper for measuring. Class, and not individual, instruction was given, and good order was maintained. The teacher told me there was no model drawing in girls' classes yet.

A third class in charge of a female teacher was about drawing; poor order was kept, and teacher's method did not appear effective. Too much effort was devoted to making the pupils understand how the pattern was developed, and too little to making them draw properly. They also used paper for measuring, and in some cases used their strips for ruling the straight lines of the patterns.

A lesson by a male teacher to a second class was still worse, owing to the man's inability to maintain order, and to his unfitness for the position of teacher.

According to law, no drawing is required from sixth and fifth classes (the two lowest); fourth class learns to draw straight lines; third, curves; second and first, more advanced free-hand. Sometimes there is model drawing in first class, but this depends very much on the director and the standing of the school.

A second class was at needlework. The requirements for this class are a girl's or a woman's chemise; a button-hole cloth containing all sorts of button-holes; and a canvas sampler. But only the best girl

* Municipality has granted £140 for this year (1895-6).

† The sixth class is the lowest and contains pupils between 6 and 7½ years of age; 1 class is the highest and contains pupils from 12 to 14 years of age.

get all three done, and a good many of this class were much in arrears with their work. The teacher explained this by saying that some of the girls (at least five or six, as it turned out on questioning them), had remained away with permission after the summer holidays, having gone to the seaside or country with "Habsky Colonies." These are got up by benevolent associations, which send as many delicate children of the poorer classes as possible to the country for several weeks during the summer.

The following is the needlework required from the second classes in Berlin:—From sixth and fifth, some, from fourth, a strip of knitting of different sorts, and a sock or stocking, from third class, a sewing cloth showing all sorts of stitches (I may note, by the way, that *Knäuelung* comes only third or fourth), and an apron, but this latter is not got made except by the most diligent; from second class, a woman's chemise, a button-hole cloth, a canvas sampler, and a stocking, from first class, a man's shirt (not a dress shirt), drawing and painting samplers, cutting out. The two highest classes are allowed to take their work home, but, even so, the whole course is not got over unless the girls remain a couple of years in the class.

In the afternoon I went to the cooking school in 194th Primary School, in Müller Street, under the superintendence of Director Tuisch, and visited also the boys' and girls' "Horte," which are maintained in the same building. Forty children were in each of these "Horte," the boys under the care of a certified male teacher, the girls superintended by a lady who is not a teacher, both superintendents are paid a small salary. Each child pays 20 pennings (namely 2½d) a week, for which sum they are kept neatly off the streets, and superintended while their parents are at work; they are allowed the use of the room (warmed and lighted in winter), and playground, have pen and ink for their home lessons, and the girls also get help and instruction in needlework from ladies who interest themselves in the "Horte." In addition they get some of the food (salads and soups on alternate days), cooked by the cookery class.

The cookery class is arranged as follows:—Six schools participate. Each sends twenty thirteen-year old girls from the highest class one day in the week from 2 to 6 o'clock—so that each section receives about forty lessons of four hours each, or 160 hours' instruction in the year. The teacher is in every case an ordinary school teacher, who has a taste for the subject, and has specially qualified herself to teach it. She is assisted by two or three young ladies wishing to get a certificate in cookery, and by a couple of ladies who interest themselves in the matter. The expenses are borne by an association for "promoting the well-being of children who have left school."

The first hour of each lesson is given to theory, but much more scientific than with us. The effects of heat, the constituents of food, are not only told, but shown by experiment. These teachers are able to make simple chemical and physical experiments, for which they have a small but well selected set of apparatus. Director Tuisch told me that one of the teachers was so good an experimenter that at a recent chemical competitive examination for some public position as analyst she was almost successful.

There is a table with a drawer for every four girls; a stove and a very simple dresser for every four, and an exactly similar set of utensils for each, so that practically there may be said to be five kitchens with four girls working in each. The same two dishes are prepared at every table. On the day of my visit there were (1) herrings, (2) potato and kidney bean soup—both very cheap dishes, and both very well cooked. One girl of each batch lays the table, and when the food is cooked all sit down and partake of one of the dishes. What is left of it, with all the other, goes to the children in the "Horte," who naturally appreciate the warm meal very highly. The preparing and cooking occupied about two hours. After the slight meal, the

girls proceed to wash up. Every article used, before being put away, has to be shown to the teacher, who insists upon the greatest attention to order and cleanliness, each has its appointed place in the dresser or dresser, so that every child of each class knows exactly where to lay her hand on anything she requires. Even the sticks wanted for lighting the fires on the following day are cut, and laid ready for the next class. The girls take notes of the lessons, and write out full notes and recipes at home. They also have to keep a simple form of housekeeper's expense book.

The town provides room, fuel, light, and water; the society defrays all other expenses, getting money where it can—occasionally (twice), a small subscription of £20 and £5 from the State, due chiefly to the interest shown in the matter by the Empress Frederick, and (twice) £25 from the municipality. The last published report shows that the cost of the six classes for the year was only £104 10s. made up as follows:—

	£	s.	d.
Salary of six teachers,	60	0	0
Payments to school servant,	3	0	0
Payment to sweep,	1	10	0
Completion of stock of utensils,			
repairs, printing, &c.,	5	14	0
Materials for the six courses,	34	6	0

As the "Horte" pay about £2 a year for food supplied from each class, the net cost of the materials would be only £22 6s., or about 2s. a lesson, that is about 1½d. per pupil—a surprisingly small amount, due partly to rigid order and economy used in conducting the course, partly to the dishes being of the cheapest and simplest kind, such as the real poor or working class provide for themselves. There is a regular series of dishes prepared by every class. No cakes or fancy dishes are ever cooked. The pupils pay no fees. Their attendance is quite voluntary, but no girl ever absents herself unless ill, and for more apply to join the class than can be taken on.

The estimated cost of setting up kitchens for all Berlin Primary Schools (exclusive of room, fuel and water) is, for utensils, &c., £1,500; for teachers and materials £4,300, on the supposition that twenty-two kitchens would be required for 5,500 girls of highest class, and in each kitchen two sets of four hour lessons would be given every day. The population of Berlin is about 1½ millions.

There are about 100 such cookery schools in Germany, the rooms, fuel, &c. are generally given by the municipalities; in addition Chemnitz spends £410 a year; Karlsruhe, £300; Cologne, £190; Glaschoen and Heidelberg, each £150; Kiel, £145, and other towns smaller amounts on this cookery and household instruction.

The directors of the six schools from which the children came affirm unanimously that the influence of these cookery classes has been altogether beneficial and satisfactory. Even in the matter of sewing, the hours for which were reduced in favour of the girls of this class by two a week, no injurious effect has been noticeable.

Subsequently, I called on Dr. Hermann Zwick, one of the inspectors, who has taken great interest in manual training for boys, and cookery classes for girls. He gave me some information on these matters, also the time taken of two Berlin schools, which I forward herewith.

In the evening I went to the Third Evening Continuation school, near the Garrison Church—Director Drehschmidt—and visited the chemistry, modelling, and drawing classes.

There were twenty students in the chemistry class, but only two or three were young fellows, some were bearded men. The lesson, which was on milk and its constituents, was very practical and well illustrated with successful experiments, carried out with the very simplest apparatus.

In the modelling class, the pupils, fifteen in

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number, averaged about eighteen years of age. They were working in wax, plausine and plaster of Paris. The work done was of a very high class, and even with the younger boys, was very successful. Some of the modelling was done from patterns, some from drawings. Some of the better specimens of modelling are kept as patterns for future classes.

The sixteen students of the drawing class were drawing from casts, and from a model—a man who was paid 6d. an hour for sitting. Here, too, the work was decidedly good. The students pay is a year school fee; the municipality defrays the rest of the expenses, as well as providing house, light, &c.

10th September, 1897. Visit to Kloster-Strauss school.—This is held in a rented house at the rear of the street. The rooms are on several floors, and are small, low, and not nearly so good as in the new schools built by the municipality. It is a survival of an old parish school. There are twelve such rented school-houses in Berlin. There is a small playground attached which boys and girls use at different hours. There is no gymnasium, pupils go to another school for instruction in drill, &c. No class higher than fourth is kept in Kloster-Strauss.

I was present at a drawing lesson in fourth class, thirty-five pupils in attendance. Excellent and original work is done by the teacher who has been allowed by the director to make experiments in teaching the subject. Even sixth class learn a little, and fifth class, regularly. With fourth class he takes model drawing and tinting. Some specimens I forward herewith were done in twenty minutes; in many schools these would require an hour, and not be so well done. The model drawing with his fourth class is not on the Hamburg plan. He attaches more importance to training the pupils to see, than to their mere drawing, yet the latter is very successful, and much above the average. He questioned the pupils minutely on "line" in the room, vertical, horizontal, slanting; lines like the top of the open door which though really parallel with the line of the ceiling seemed to diverge from it. A cube was then taken, and the angles, corners, lines, and surfaces closely questioned on; then a flat square piece of tin, to represent one of its surfaces, was presented to the class, placed in many different positions, and the directions of the bounding lines questioned on. This was then fastened to the shelf of a simple apparatus the teacher uses for model drawing, consisting of a rest for the desk, an upright plate of glass fastened to it, and a shelf for the model behind the glass. The model can, by a simple contrivance, be placed in many different positions. The pupils use a stick of soap to draw the model on the glass as it appears to them. Three boys drew on these frames while the others drew on the flat; then three others got the frames, and so on. Teachers would naturally prefer having a frame for every pupil, but the town would not supply them, and the three he has had to pay for himself. All work was done with great readiness. The pupils are also trained to note the relative position of converging lines by means of two pencils, &c. The tinting as done with ink or dilute coffee. I have noted "most interesting lesson and teacher," and regret that my notes fail to convey the merits of the lesson.

I heard the sixth class (the youngest) at arithmetic. It consisted of two divisions—one just at end of first year and one that had begun school at Easter, and owing to vacations and holidays had had really only four months' instruction. The lesson was all oral and given by a female teacher. The younger ones did simple exercises up to 10 on the ball frame and without it—

such as $3 + 3 = 6$; $5 + 1 = 6$; $7 + 6 = 13$; $6 + 1 = 7$; $5 + 2 = 7$ and vice versa; $7 - 1 = 6$; $6 - 3 = 3$. Older ones did addition and subtraction up to 100.

Thus, $87 + 6 = 87 + 3 (30) + 3 = 93$

$26 - 7 = 26 - 6 (30) - 1 = 19$.

The lesson was very good, and the children quick in answering.

I visited a kindergarten school and college in Steinmühl-strasse, as recommended by Dr. Zwick, the Inspector. There are about 100 young ladies in the college, eight or nine of them English and one Irish. They have to learn cookery, laundry work, household work, gardening, and care of a few animals, in addition to kindergarten. This school kindergarten is more play than in our Irish schools. Ten girls in the senior class being over six years of age, have to follow the ordinary Prussian school course. The younger ones really work in a garden, take care of some animals (pigeons, rabbits, &c.), and do some washing up (utensils, dolls, &c.). "Occupations" are not systematically gone through, though the teachers learn them. The girls have no sets of squares as ours have. I did not see drawing with any of them. It would appear as if everything that comes into the regular school course later on was forbidden in the kindergarten. The senior class gets a "month's object," which is worked through from many points of view, but the inspector allows this to be taken up only once or twice a week. The plan was the "month's object" for September. It had been observed growing in the garden, had been plucked and cut up; a vine had been paid to the market, and plums bought; then these had been cut up and stored by the class; then cooked, and change of condition noted by the class. The children were certainly interested. Great attention is paid to training the pupils' intelligence, learning by rote is discredited. The kindergartens are all private schools, and have no connection with public primary schools; the teachers of the latter are opposed to introduction.

In the afternoon one of the teachers had a boys' woodwork class, only eight boys attended, but this, I was told, was below the average number, which is highest in winter half year. The objects made were simple for the most part, but were done entirely by the pupils. They learn the use of the fret-saw, file, hammer, screw-driver, &c. The wood (chiefly maple) is ready prepared, about 3-16 inches thick. The boys are required to make the work very smooth with sand-paper. One boy was twelve, one eleven, and the others ranged down to six years. Several had tool boxes at home. They may pay a trifling fee for material, but the expense is mainly borne by the society that keeps up the kindergarten school. At the beginning of the course an attempt is made to keep the pupils together at the same models, but they gradually get separated, due partly to irregularity of attendance. The latter is quite optional. There is a regular series of articles to be made. Material spoiled in making one article is used up for another. Pupils do not take away the articles unless they pay for the material. Drawing scarcely enters into the course of instruction.

11th September.—Visited a Catholic school (boys and girls), in Gieseler-strasse. The director allowed me to take drawing and needlework specimens, which I forward herewith.

The boys of fifth class were at reading and explanation; a very small piece was read by each, the whole was well explained.

The first class was at drawing—some from the list, some from models on the Hamburg (Steinmühl) system. This practically consists in drawing a solid, say a cube, in every possible position, until it is known by heart, so to speak. The boys' work was far but slow. The model drawing was attempted only by the most advanced boys, and not without error. The teaching was relatively not so successful as in the fourth class in Kloster-strasse.

A lesson in physics (weight and pressure of the air) followed, taught with great clearness and intelligence, step following step without any gap, and the whole well illustrated with apparatus, which the teacher used to great advantage.

In the girls' department, the girls of first class were

at singing; it is taught by ear, notes being little used and only as a help. Several four-part songs were excellently sung, the teacher (a man), first giving each section the keynote on the violin, the girls of each section holding the note until all had got their notes.

The director got the girls to show me their samplers and other work. The man's shirt is the chief thing the first year; those that remain longer learn dams and patchings of various kinds, and make samplers in silk or satin stitch on cloth (one of these sent herewith). But these are scarcely ever accomplished except the pupils remain a couple of years in the class. Needlework is taught five or six hours a week. In this school the work was remarkably good, and the specimen I brought away was not at all the best. The girls have to provide their own material. As in other Berlin schools, a few, but very few, get books and copies free.

12th Sept., 1897.—I visited a secondary school at Niesky, near Goritz. The boys amuse themselves during part of their free hours on week days and Sundays in doing wood carving and pasteboard work, but this is quite voluntary, is not systematically taught, and forms no part of the regular school course.

13th Sept., 1897. Goritz (population about 80,000).—I called on the school authorities of the place, and then visited the last primary school. This is the oldest of the existing schools, though the town was built only in 1868. It has separate "sides" for boys and girls, but both are under the one director. It wants many conveniences that the newer houses have—gymnasium, special room for drawing, assembly room, hall—but has a very fine playground. The school course is divided into six classes, as in Berlin, the compulsory school years being also eight. The director, Herr Conrad, first showed me a class at needlework, this begins in Goritz with knitting in fifth class, children of seven or eight years of age, who have two hours of two hours each every week. The numbers present in fifth class being large, there were two workmistresses giving instruction. The Goritz programme in needlework is, for—

Fifth class.—Knitting a plain strip in three or four different stitches.

Fourth class.—Knitting a stocking.

Third class.—Crochet.

Second class.—Sewing a sampler of all sorts of plain stitching and lettering.

First class.—Darning, patching, and a woman's chemise (including the drafting and cutting out).

Only the girls of the upper division, who have been a couple of years in the class, get all this done. I observed that all the girls had their work fastened to the desk either by means of a heavy prescription weighted with sand, or by means of a vise screwed to the desk; none held her work as our girls do. One of the girls drafted the chemise on the blackboard, teacher all the time examining the class on measurements, &c. On the whole the work was not so advanced or so good as what I saw in Berlin.

Needlework is taught as far as possible by special teachers—workmistresses—of which there are thirteen in Goritz, who have to qualify by examination; but as the classes are large (55–60 pupils) an ordinary teacher, or a second workmistress often helps. Pupils bring their own needlework materials, but for knitting in junior classes they get the cotton or wool in school on payment of three pence. Needlework lessons are always two hours in length.

The teachers of third class gave them a drawing lesson. By some mistake he was talking history when the director and I visited, and evidently had not prepared his drawing lesson which caused him to make several blunders. The development of the pattern from the square was carefully dwelt on. The pupils' drawings—freehand only—were very fair, decidedly above our average standard. The teacher of the first

class (girls) showed me their drawings, which were very good, some were titled. There is no object drawing in girls' department. A good many of their patterns are suitable for needlework.

The fourth class girls had a "model piece" in their reading book. This was read by the female teacher, then by class, then very carefully gone into, explained, and summarized, and the summary repeated by pupils but not in the words of the book. Only a few of the reading lessons are treated in such detail, and all the lessons of a reader are never gone through in one year. For instance in fourth class only thirty pieces, in third, only forty pieces are necessarily read. (It should be noted that dozens of different readers are used in Germany, though as a rule, only one set for Catholics and one for Protestants in the same district).

The director took me next to the Ninth Primary School. This is quite a new building, cost about £15,000, and is fitted up with all modern improvements, including baths, hot air warming chambers, &c. It has a very fine playground and gymnasium, the latter used by other schools as well; for instance a class from No. 1 School was being drilled during my visit. Obedience to signals was sharp and exact. At least 25 per cent. of the boys were without boots and seemed quite as poor as our poorer children. (In winter boots are provided for as many children as possible out of the interest of a fund given about a hundred years ago, but it is now quite insufficient for the needs of this rapidly growing town).

In the fifth primary school I had time to hear only part of a singing lesson. The director, Herr Bielecke, showed me the school apparatus, with which all Goritz schools are most liberally supplied; the average grant allowed for each class is about 25s. a year. The cost of primary education in Goritz is about 35s. per pupil annually—in Berlin it is 56s. 10d. The director was not in favour of introducing manual training into the schools, and said most of the Goritz teachers were against it, but that nevertheless it would probably be required before long.

14th Sept.—Went again to fifth primary school and heard an admirable model lesson by the director on two German poems, the explanation and development of the subject matter was altogether excellent. A good lesson on vulgar fractions was given to second class—partly mental, partly on blackboard.

There is no formal examination of the schools. The director visits classes three or four times a year and reviews the work done; but promotion of a pupil depends mainly on the teacher's annual report of the child in religious knowledge, German and arithmetic. The local inspector, who holds a position somewhat similar to that of manager in Irish schools, is a clergyman, and does not examine. The highest Government officer is the royal "Geh. und Schulrath" (school and privy councillor). If a pupil fails a second year in a lower class, he is sent to the "Hilfsschule" (Helping school) in Wilhelmstadt. This school I visited with Director Conrad. It contains two classes corresponding to sixth and fifth in ordinary schools. Some of the children were merely dull, some were half-witted. When any of the children make progress beyond the course of this school they are sent back to the primary schools. To enable more individual attention being given to the pupils the classes are kept small—about twenty pupils in each. The boys of the highest class (fifth) do simple manual work, chiefly as in the Berlin course for easy woodwork, with thin twigs or branches. The girls draw while this is going on. The junior class do paper folding and painting. The work done by the boys during my visit was nothing remarkable, but a couple of fellows were evidently greatly pleased with the comparative success of their efforts, and all showed interest in the work. For these reasons the teacher, Herr Hanzke, believed the manual training to be useful, but he did not consider it to be all important, and thought other subjects might, and actually did, afford similar moral and intellectual

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advantages and similar training of hand and eye. It is not so, however, but a colleague who gives instruction in manual work.

I next visited a girl's "middle" or higher school, with which is connected an "Industry" school. The children of the former had just gone home, but Director Herr Kleinwachter showed me over the latter and gave me all necessary information about it. It was started by himself about five years ago, and carried on for four years at his own expense; now the town has taken it over. The young women are over school age (fourteen years). Last year thirty-five were learning drawing and painting (freeland, from casts, water colour, oils, patterns for paper, and embroidery, painting from nature, &c.), and some had very fine work to show. All in the class have to do the same patterns, but those who are quickest add some ornaments and colour their drawings. Of the young women, 112 learn the cutting-out and making-up of all sorts of underclothing; paper is not used for drafting. The sewing is largely done with sewing-machines. Both the drawing and sewing lessons are long—three or four hours at a stretch. Seventeen were learning book-keeping. The fee is about 2½ a half year, or something like 1d. an hour. The "Industry" school began with seven; last year it had 164 pupils.

The girls in the "middle" school learn one foreign language in addition to the primary school course. This is now taught more conversationally than formerly. The teacher is a German, who must not only have passed a severe qualifying examination in it, but must have gained a colloquial knowledge of it, and the correct pronunciation and accent, by residence abroad.

In the afternoon I went to the Sixth Primary School—the Catholic School. This is at present held in three separate buildings, but a new schoolhouse (much the finest in Göttinge) is nearly ready for it. I found a "conference" going on, under the presidency of the local inspector, Rev. Father Urbanek and the Regierungsrath (Head Inspector) from Langens. There is a monthly conference of the director and teachers of every school, at which ordinary matters relating to the school are discussed, but this was a four-monthly conference, which is regularly held in this district, the teachers of all schools coming together, but Catholic and Protestant teachers separately. At these four monthly conferences one teacher gives a model lesson, and the local inspector and other teachers criticise. The lesson on this occasion was by a Herr Kurig, on the "Mountains of America." Too many names were not given; heights and lengths were compared with those of the neighbouring Rosenbergs; description, products, effects on climate, &c., were all sufficiently dwelt on. A good account of a journey over the Andes was given. The difference between the melancholy, fever-stricken forests in South America and of the beautiful German woods was drawn out, and illustrated by poetical quotations from their reading books. Maps were used; also a sketch-map of South America, which teacher put on the blackboard, and filled in as he went along. After the class of boys had been dismissed, the local inspector and the Regierungsrath gave on the whole a favourable criticism of the lesson. The teacher's colleague—only two spoke—did not criticise effectively. Then two papers were read on an educationalist of the name of Wiescherhaller (I think), one dwelling on his merits as a pedagogue, the other on his character generally. In both he was extolled as the equal or superior of Pestalozzi.

The Regierungsrath asked me what part of the German educational system I was inquiring into, and where I was going to next. When I told him to Nenrode, he said that was right, that all best lights on manual training had come from Nenrode.

15th Sept., 1897.—I visited this Catholic school again, and heard several classes at ordinary work.

This was carried on in much the same manner as in other schools, but with rather less concrete illustration (*Anschauung*); for instance, in a lesson on vulgar fractions, the work was done in the usual mechanical way, with mere figures on the blackboard; in a lesson on light the upper first class no apparatus was used. Among the stock of apparatus in this school were several pasteboard articles made by pupils.

I next paid a visit to a training college for female teachers. Candidates for all classes of schools are trained, but those for primary schools are rare. The students must have attended a higher girls' school for at least three years after leaving the primary school, and must have passed in the highest class, at which stage they will be over seventeen years of age. The course here, as in all Prussian training colleges for men and women, is three years. English and French are learnt in addition to the ordinary school course, but a candidate for primary school would not require both languages.

I heard a good lesson on method (reading and writing combined), "how to teach capital letters." The professor told me that in their second year of training the students hear model lessons given by him, and practice occasionally on three or four pupils brought specially to their classrooms. In the third year they teach in the practising school. The whole class would number about seventeen; of these five or six go to the school together; one teaches, the points of the lesson being noted and criticised by the others and the professor. In third year each student has about an hour a day in the practising school.

A lesson in reading, explanation, and grammar for a junior class followed, at which there was a good deal of "guessing" on the part of the students. They used a large reading book of 675 pages, the extracts in it being mainly from classical writers. In the second and third years "authors" also are read.

The highest class was having a lesson in English from a lady, who spoke the language perfectly without the least trace of foreign idiom or accent. The girls were reading Shakespeare's *Richard III.*, which they read quite so well as our teachers in training, and translated fluently. The whole lesson was conducted in English, no German was used except in the translation. The teacher then gave them an oral examination in English literature, in which the students appeared well acquainted with the names of the pre-Shakespearean authors and their works. A pretty full account of Chaucer's *Canterbury Tales* was given, and a comparison drawn between it and Boccaccio's *Decamerone*, altogether favourable to the former. Needlework is not much practised except out of school time, as the girls are supposed to be proficient in it. This school is supported by the town. The school fees charged are—for town girls, £6 a year; for outsiders, £7 10s. There are no intern students.

In the afternoon I visited the Manual Training School. This is supported by a local association, with a strong committee, presided over by Count E. von Schenckendorff, a member of the German Parliament, who, until quite recently, was also President of the Central German Association for Manual Training, and is a most earnest advocate for its general introduction. Unfortunately he was paying a visit to the Nenrode schools, so I was unable to see him. Urged on by this Association, and by the success attending the voluntary classes, the school committee of the municipality early this year petitioned the Government authorities of the province (Saxonia) to be allowed to make manual training for boys and practical domestic economy for girls obligatory school subjects for pupils in their final primary school year. The request was refused, though the voluntary classes in both subjects were approved of.

In the manual training-school instruction is given in wood-carving (clipping), pasteboard work, carpentry, and light woodwork by ten of the ordinary school teachers. Boys begin the light woodwork when about nine years of age, the others a year later, and

have a regular two years course in them. The children of the primary schools pay 6d. a half year for material, and at the end of the year are allowed to take home their finished articles. Some of those I saw were beautifully done, showing great taste and neatness in work. So far as possible the pupils of each section are kept together, and the teaching therefore is not individual. Drawing of patterns and models enters into the course of instruction to some extent. Beyond the fee for materials the classes are free to primary school children, who receive instruction in batches, two hours at a time—namely, three divisions from 4.30 to 6.30 o'clock on Mondays and Thursdays; four divisions, Wednesday and Saturday, 5 to 6 o'clock; and three divisions on the same two days from 6 to 8 o'clock. Classes are opened at Easter, and continue for the whole year except during the ordinary school vacations. The boys work earnestly and happily, and profit much by the course. The town gives the rooms, also an annual money grant of £35; from another public source £25 is given, and the association provides the balance of the £170 which pays teachers and all other expenses. Stalls are laid across the ordinary school desks for boys engaged at the light woodwork, and at pasteboard work, for the other classes proper tables and benches are provided. About 200 boys receive instruction in manual training. The whole is under the direction of Herr Neumann, a Goethe teacher, who has devoted much thought and labour to the matter. Pupils of the higher schools also receive instruction, but only during the winter half year, on Wednesdays and Saturdays from 6 to 8 o'clock. They pay a quarterly fee of 3s. each, and number about forty. The association also promotes games and gymnastics at a cost of about £30 a year, which is received from the same two public sources.

In the same house in which manual training classes are held are also two boys' "Horte" supported by the interest of a bequest which pays for two caretakers or superintendents. The town gives the rooms, fuel, and light free. About seventy-five boys are received into each room. They were employed, when I visited, one set in taking the mairlin from sea-dried tobacco leaves, for which work three pence a lb. (say three pence for 10 lbs.) are paid; the other set, in culling leaves for camellia tea, for which work 1s. for 4 lbs. is paid. The money earned is divided among the children at certain periods. These establishments are very useful; but the employment of the children at above work is very like a branch of the law forbidding children at school age to be employed for factory work.

The ordinary school courses for the Goethe classes are laid down by the town authority. These are carefully divided into weekly sections by the Rector's conference, and each section has to be accurately adhered to during the month. This allows pupils to move from school to school when necessary without in any way interfering with the pupils' progress.

There is no drill or gymnastics for girls; also no geometry, but instruction as to lines, angles, and geometrical figures is to be given in connection with drawing.

Geometrical drawing is connected with geometry and measurement for boys of second, first, and upper first classes.

There is no object drawing in any primary school in Goethe as yet, or even drawing from casts. This will shortly be introduced into the newer schools which are being provided with special drawing rooms.

If a pupil goes to the school of a different religious denomination he must attend the religious instruction given there (i.e. a Protestant child gets Roman Catholic religious instruction in a Roman Catholic school).

10th September, 1887. Neustadt (Silesia).

Neustadt is a small town of about 8,000 inhabitants, situated among the Sudete mountains. The town

and district around was formerly noted for home weaving, and there are still more than 100 houses in which it is carried on. But owing to factory competition the amount that can be earned by a weaver, even when his children help by winding bobbins, is only 8s. or 10s. a day, so this home industry is dying out. Many of the country weavers have also small farm holdings of a few acres in extent. In the town there are a couple of weaving factories; also an extensive lithographic printing establishment, and near the town is a coal mine in which about 1,000 miners find employment. The crochle clay found in connection with this mine is even more valuable than the coal. Not far off are some large glass works. The rate of wages is not high, and the people are for the most part poor. A larger proportion of the children go barefoot than I have seen anywhere outside the extreme West of Ireland. The people are mainly Catholics, probably in the proportion of ten to one. The place has very high, so the crops raised are much the same as in Ireland. It is the centre of a school district, of which Dr. W. Springer is the Government Inspector. It is no exaggeration to say that, as far as education is concerned, he is Neustadt. Though the Prussian school law prevails here as elsewhere he has managed to introduce manual training very largely into the schools of his district. He has done this by combining it with drawing and geometry, and by slightly lengthening the ordinary school hours. In fourteen out of the forty-six schools in his district he has manual training for boys, of whom 600 out of 4,600 receive manual instruction, and this number he hopes to double within a year when he has trained some more teachers to take it up. He also does all possible to further knowledge of cookery and household work among the girls, and conducts special classes for teachers in these subjects.

The first morning I saw a class at drawing and geometry combined, the drawing (geometrical pattern) was done by most of the boys on wool, which was afterwards to be "carved," a few were working on paper. The class was divided into two parts, so that one was drawing while the other was receiving instruction in geometry, partly connected with the pattern that was drawn. I heard a lower class at reading and explanation, and another at mental arithmetic—both good lessons.

In special rooms attached to the higher school cookery and laundry classes are held for the senior girls of the primary schools of Neustadt. Cookery is taught only in winter half year. The number of girls in each class is limited to thirty-two, and they receive one lesson of four hours duration every week. For the cookery lessons there are four stoves, so that eight girls work at each instead of four as in Berlin and Chemnitz. This is to economise expense as Neustadt is poor. For the laundry work there is a good supply of apparatus. The expenses of the classes are borne by the "Ladies' Association," and by voluntary local contributions; they pay even for the materials. The children get part of what they cook, the rest is sold or given to the poor. The laundry girls wash all the cloths, aprons, &c., required in these classes, and what home clothes time can be spared for. The girls learn also other house-work, such as cleaning clothes, hems, &c. The schoolrooms are cleaned out daily by the class, a damp cloth over a brush being used, and they are scoured every couple of months. The floor and furniture are much like ours.

After these arrangements had been shown to me, the class that I had seen at drawing came down to the workshop; about twenty-seven boys went to wood carving (shipwork), and eighteen to carpentry work, the task for the day being a dove-tail joint. In both cases the instruction was given to the whole class, even the first few strokes of the saw being regulated by counting; but of course teacher had to go about among the boys and point out errors in detail in many

APPENDIX D 6008 The blackboard was largely used. There are places for twenty-eight boys at "chipping" and twenty-eight at bench work. The "chipping" tables can be lowered or raised to suit the height of the boys. The pupils pay about a penny a month for materials. The rest of the expenses are borne locally by voluntary contributions, and by a grant from the Association for promoting Manual Training.

Three teachers give instruction and receive £5 a quarter for their work, as it is in addition to their statutory "duty" hours.

Boys of the upper class work twice a week, one hour at chipping and one at carpentry. The tools used are a little lighter than a man's. Paste board, wire-work, and chipping are begun at ten years of age; after twelve years of age carpentry becomes the chief thing. The boys do not sharpen their own tools, this is done by a local carpenter, who receives 1d. for every five blades or planing irons, and for saws (which are sharpened only once a year) a halfpenny each is paid.

Dr. Springer, the District Inspector, whom I had met in the morning before seven o'clock walking out to visit some country school, took me in the afternoon to see his training class of thirty women, who are qualifying to teach needlework. These all have a good knowledge of needlework, but come here for four weeks to be trained to teach it. There are several courses in the year for this subject, and also for cookery and household management. His teacher goes also to other centres and holds similar courses. Her work is very systematic, and all the candidates are obliged to follow her methods exactly. Every step is made under orders from her or the class, the directions being at first full and gradually simplified until they come down to mere counting 1, 2, 3; 1, 2, 3, when the class has learned the steps thoroughly. Dr. Springer has himself studied these matters practically and is quite capable of putting the classes through their work. He told me a couple of evenings later when I met him at his house that he had just spent over an hour that afternoon trying to make one member of the class teach a lesson properly. She wept freely, but he hardened his heart and told her she had come there to learn this thing and must do it; and he went on until she did it right at last. He has similar courses for male teachers' manual training classes, but the men can do only a half course of two weeks at a time, as they cannot attend except during vacation. At Michelmas he expected to have twenty more of his teachers fully trained.

Needlework is taught in forty-five out of the forty-six schools of his district by forty-five workmistresses. These are paid but poorly—from £2 to £10 a year. When Dr. Springer came to the district about ten years ago there was at least one workmistress that had only ten shillings a year! There are only three female trained certificated teachers in his district.

Flower and fruit culture is carried on to a small extent. The fruit culture is mainly directed to improving apples and pears by grafting and budding, which the boys learn. The teacher of the Catholic school in Nenrode is very successful in this. Every school has some apparatus for instruction in natural history and natural science, but the smaller country schools have very little. There is only one school in the district that has not at least two teachers (Zug-hals). The teachers' salaries range from £60 to about £120 or £140 a year, according to length of service; they have also lodging allowance of £7 10s. 6d. to £10. Many teachers have also Church duties for which they receive a small extra salary. I gathered from some observations made by Dr. Springer that a head inspector had a salary somewhat less than a district inspector in this country, with the same "allowances," but with certainly less work.

17th September.—I spent the day in the higher school in Nenrode. There were present twenty boys

in the upper division, eleven in the middle and twenty-one in the lower, fifty-two in all. Work began at seven o'clock in the morning with drawing combined to some extent with geometry. The drawing was done on paper from patterns put on the blackboard by the teacher. The middle division drew first a square with other squares inside as guiding lines for a clover leaf, the upper class a more difficult pattern involving geometrical figures, which were afterwards used for memorisation exercises. These two divisions worked silently, while the juniors were taught on blackboard how to draw a regular hexagon. The boys were questioned on the hexagon, made to measure sides, distances from central point, &c. Then they drew on their own paper the vertical and horizontal central lines, measured off the other necessary guiding lines and points according to the proportion they had already found on the blackboard, &c. When they were told them to complete the rest of the work by themselves, great care was taken to make sure that they knew what was required, several boys being made to repeat exactly what was to be done. The upper division was then taken up by teacher and the boys questioned on the geometrical part of their drawing, areas (for instance of concentric rings) were calculated after careful measurement, and then they were set to do some similar problems, while the teacher took up the middle division which had meanwhile finished the clover leaf and done it very fairly. Their geometrical lesson was connected with the pattern on their boards for wood carving, while such of lower division as had finished the hexagon were set to draw an octagon. The boys had now spent about an hour and a-half at drawing and memorisation. After a few minutes pause they next went to the workshops. The seniors did some wood carving in low relief; the middle division was engaged at "chipping," while the teacher gave instruction to the juniors in cutting and planing a surface and edge. This went on until nine o'clock, when the juniors proceeded to draw to scale on their boards a pattern of a foot of a stool which had been sketched on the blackboard for them. While they were so employed, the teacher gave the seniors instruction in their work. Then the juniors and the other two divisions changed places. In this manner the one teacher kept all at useful work from seven until after ten o'clock in the morning, after which they were allowed out to play. This being an unaccommodated school, the Protestants go at the time of religious instruction. At half-past ten o'clock I visited Buchen school, about a mile outside the town. Schoolhouse and furniture were similar to ours, denominational emblems were on the walls of the schoolrooms. There are two teachers and two divisions of the school, the senior division numbered thirty boys and forty girls, the junior division was a little larger. Most of the children were hardwork. The girls of senior division are at needlework, while the boys go to manual training. Sixteen boys in two sets were at carpentry, fourteen were at chipping. The benches were smaller than usual, but were large enough for two boys to work at. Benches are fixed to the wall by hooks, and supported on a trestle at the other end. Across these beams or joists, which are kept at certain distances apart, the carpenter's benches are fixed. These are all removed when not in use. The frames and leaves of the desks are made to screw up and down as required, and when brought to a level they are used for working tables for "chipping," and for carpentry as far as possible. The desks themselves serve as tool chests. The instruction is not individual, but all boys of each division are at the same work. The cost of benches and fittings was £20; of tools, &c., about £15. The boys do very fair work.

In the afternoon I visited the Catholic school in Nenrode again, and saw junior boys, nine to twelve years of age, twenty-one at pasteboard work, twenty-six at "chipping," all under one teacher. The younger boys were cutting a square of pasteboard, on which they had pasted a picture; this they had to cut into

squares like kindergarten tablets. Being Friday, their knives were rather blunt, and the boys did not succeed very well in the cutting (the tools are sharpened by a carpenter every Saturday). The other division that was "chipping" did useful work.

I then visited the Protestant school—about 110 children, two teachers employed. Here also many pupils were hantfort. Heard part of the last lesson—stating of sums—which was creditable. The teacher showed me the books and time-table of his school, and explained how manual work was carried on. He was certainly not favourable to its introduction. The principal teacher corresponds with the authorities, and has to note if the weekly arrangement of lessons is adhered to. He also keeps savings bank accounts for the children, which is more troublesome than with us, as the children may deposit odd pennies (tenths of a penny). Accusations of misappropriation of these moneys sometimes crop up there as here, and I was told that a charge of this nature against a neighbouring teacher was to be tried in a few days. Children appear to have the power of withholding their money at a moment's notice.

18th Sept.—I went to Zauggels school in the morning. The staff consists of one teacher and a work-mistress who attends on Thursdays from one to three o'clock. The children are decidedly poor. There were fifty-seven present, taught in five classes, as follows—

V.	(lowest)	9	57.
IV.		9	
III.		9	
II.		22	
I.		8	

The teacher was engaged with third and fourth classes at mental arithmetic; the other classes were at written work, all in desks. Sums were dictated to the senior classes; at nine o'clock they went out for a short rest—the boys to gymnastics and drill in the open air, the girls to play according to the list of games prescribed. When they returned to the school-room all but fourth class went to writing, and wrote from headlines set on the blackboard. The youngest had slates, which on one side were ruled in squares, like kindergarten slates, to regulate the size and placing of figures and letters. The copy for the lowest class was *peno* (e-do, for third class the letter *z*, for second and first *F* . . . Each wrote about half a page, including a few words in which these letters occur. The fourth class read while this was going on. Here, as in all German schools, the reading and speaking was slow and distinct. The reading of writing as well as of print is taught from the very beginning. The amount required to be read during the year is less than in our schools, but the lessons are more closely gone into, and a certain number are treated very minutely, and in great detail.

The teacher was good enough to put the boys to manual training, to let me see what they could do. Their small benches are made to fit on the top of the ordinary school desks by a simple plan, devised by the district inspector, Dr. Springer. The first class learns carpentry work; the second, wood chipping; and the third, pasteboard work. The last two are done on the ordinary desks, made to rise to a level as in Baden. The teacher and the work was popular with the boys; the woodwork done by them was very creditable. Cleaning up, putting away the benches and tools, and cleaning the room after the lesson, were quickly done.

The house has a nice little garden round it, in which the teacher and children cultivate a few flowers and vegetables, as well as a little fruit. This garden is useful in the botany lessons. It is found attached to nearly all the schools in the district. The teacher gave them a very good lesson on plants. All the children grow a plant in a pot from a slip the teacher gives them, and according to his directions.

They must bring their plant to show it to him when required. Some have three or four pots.

There is a small lending library attached to most of the schools, in case of Zauggels it consists of forty-nine volumes.

With regard to the games—there are eight prescribed for the lowest division; fifteen for boys and fifteen for girls of the middle and of the upper divisions. The following notes are at the foot of the list—

1. At least two games should be played in each longer pause, which may extend to twenty minutes; these should be led by the teacher or by pupils trained by him.
2. They should be taken up in regular order, and the games played each day should be entered in the school journal (*Disziplin*).
3. As far as possible all children should be engaged, if only one or two are moving about the object of play is lost.
4. If there is no playground, and children play on the road, one pupil must be appointed to warn the others of the approach of vehicles; when signal is given, all must run to one side of the road.

The teacher of this school said the labour of teaching so many classes by himself was very great; no teacher has ever stopped more than a couple of years in this school. There is a local inspector (i.e. manager), the parish priest, in addition to the district inspector.

There is also a continuation school, with compulsory attendance for apprentices, in Neustadt. They attend until eighteen years of age, and receive instruction in German, arithmetic, book-keeping, &c.

The district inspector, Dr. Springer, examines all his schools every year, and visits constantly. Since he came here, ten years ago, he has introduced manual training for boys and girls, and special courses for male teachers and workmistresses. He is an admirable organizer, and has written useful works on the above subjects. He has many fine specimens of wood-carving in his house, done by pupils of the schools. There is a large amount of correspondence connected with his duties; up to the date of my visit he had written about 3,000 letters since the beginning of this year, and of each of these due notice has to be kept in a letter book.

Teachers also have much writing; they have to prepare a weekly summary of lessons in each subject, and a weekly or daily record of what has actually been taught in each. A record of absences must also be kept. They have to fill forms for the inspector's examination, to enter on it the inspector's observations—all in triplicate, one for provincial government in Breslau, one for inspector, and one for the school.

I wish to emphasize the fact that these fourteen schools in the Neustadt district are the only ordinary schools in all Prussia (so far as I have been able to learn), in which manual training for boys forms a part of the regular school course.

20th Sept., Dresden.—After calling on the authorities and getting written permission to visit Saxony schools (in which I was greatly assisted by Herr Bosenberg, Acting British Consul), I went to the Eighteenth Senek (District) School. Both Benick and Burger (district and borough) schools are what are called middle schools, and have a somewhat higher course than the ordinary primary schools found in villages and small towns, that is to say they carry the programme subjects to a more advanced stage. All the children in Burger schools pay fees, many of those in the Benick schools do not; in the former the classes are somewhat smaller, the limit in Dresden being fifty children in Benick schools, about forty in Burger schools. The houses are very large, have a separate room for each class, as well as

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Mr. Pinner's
Diary.

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Mr. Pinner's
Diary.

director's and teachers' rooms, rooms for drawing and apparatus, and a fine gymnasium. The playgrounds are too small for play, but the children are not encouraged (perhaps, I may say, allowed) to romp about. A few plots are given round the houses for botanical lessons—in one of the XVIII Beelk school, the plants grown were the commoner garden plants, and those in meadows and pastures. The number of children was about 1,100, taught by sixteen male teachers, four female teachers, and four workmistresses. In Dresden, men have a maximum salary of £180, women teachers of £130. Workmistresses are paid from about 11s to 15s an hour, and may teach as much as 26 hours in the week. Being State officials, they are entitled to pensions paid by Government like ordinary male and female certificated teachers. The latter are required to teach thirty-two hours a week in "simple" (i.e. small) elementary schools, but only twenty-six in "middle" schools in large towns. All teachers are paid by the town or other school community. In Dresden each school is allowed £9 a year for apparatus.

These Saxony town schools have eight classes, one for each school year. I first saw a junior first (highest) class (fifty-five girls present) at sewing, which was certainly not quite so good as in Berlin schools of same class; the girls were doing embroidery on a patching square, at which they spend half a year. A fourth class (twenty-one girls present) was engaged at a patching square on which all sorts of stitches (including button holes) are learnt in one year. Hemming counts only fourth or fifth among these, not first as with us. The course of instruction in needlework is as follows in the several classes:—

- Eighth class.—None.
- Seventh, sixth, and fifth.—Knitting.
- Fourth.—Sample of stitches on patching square.
- Third.—Cutting out and making a girl's chemise.
- Second.—A woman's chemise, and girdling.
- First.—A man's shirt, patching, darning, &c.

Thirty-three of senior first class were drawing from various models. No glass frame or other apparatus was used to make it easier, but they have wire models of geometrical figures. Most of the boys had different models, some quite small, which they had brought with them from home; the drawings are made to fill the paper. The pupils take about six hours to draw and shade a plain jug. I noticed that they shifted their drawing boards about in every direction when drawing. None of the work is done at home.

A third class of forty-two boys was at dictation and composition; considering the difficulties of English spelling, the standard was about equal to our average.

The examination of the classes is generally done by the director and class teacher, not by the inspector.

I next paid a short visit before class of school hours to the Ninth Bürger School, and saw an eighth class at work. They were reading easy words of two syllables, on the phonic method. It differed from what I had heard elsewhere in that the pupils pronounced each syllable separately before going on to the next, and before pronouncing the whole word. *Rö-sel* (a rose) was one of the words. After reading the word the children were asked about it and required to make short sentences containing the word, as "The rose blooms." Then the word rose was written on the board and read by the children off the board, the separate letters being also questioned on. Then the children copied the word in their writing books, and were told to bring five lines of it next day. In arithmetic they were exercised mentally and at the blackboard in numbers up to ten. For instance the two numbers making up ten were asked for, one pupil gave 1+9=10; another, 3+7=10; another, 8+2=10; and so on; then the numbers in second column were rubbed out, and different children were called on to supply them. The lesson was carried on with great life and animation.

The children sit all day at lessons and only stand up to answer; to facilitate this the seats here are made to rise a few inches as the children stand up, and sink down again when the children sit.

The school fees in this "Bürger" school are 4s. a month paid to municipality.

In the afternoon I visited the Friedrich-Städter Training College. The students are all external. Their drawing was remarkably good. I could not get any specimens as they are sent to the ministry where the best specimens from the training colleges are exhibited. There is no manual training here now; there used to be turning in wood and metal for such of the highest class as interested themselves in physics.

Later on I called at one of the pupils' workshops, where there was small class of nine engaged at light or easy woodwork. Twelve classes are held here every week, two hours each, which is the amount of time each child gets. About 250 or 300 pupils receive instruction in this school, and about 500 or 900 in all Dresden in connection with primary schools. This is exclusive of orphanages, blind asylums, &c. The courses are—(1) Preparatory (paper-work, any wood-work, &c.); (2) Paste-board work; (3) "Chipping"; (4) Carpentry.

The number taught by each teacher does not exceed eighteen. The municipality gives rooms, light, &c. free, and is in future to give £30 a year; the state also gives £50. The rest of the expenses not met by pupils' fees are borne by the Manual Training Association. Instruction is given in all cases by ordinary primary school teachers who have gone through a course of training in these subjects. There is an evening carpentry class here for each teacher.

21st Sept. 1897.—I visited the ninth Bürger school again to hear a lesson in natural history (botany) and physics.

The fourth class (forty pupils) had a lesson on the potato. While growing in the school plot, the plant had been observed by the class on several occasions. Now it had been dug up carefully with the tubers still hanging to the stems. After questioning the class on the parts of the plant, the teacher went into the history of its introduction into Europe (Drake, he told them, instead of Raleigh, was first cultivator), and its present uses. Raw and boiled specimens were before the class, were cut up and examined, and very fully talked over. The first class (twenty-four pupils) had a very fine lesson on an electro-dynamo, illustrated with very good drawings on the blackboard and several small machines. The class had already learnt about the production of the electrical current by means of machinery, now, after a recapitulation, they learnt how the current was again used to produce light and to move machinery. The lesson was very clear and well illustrated; the teacher's experiments were all quite successful.

Afterwards I visited the fifth "Bezirke" school, which has connected with it a school for children of weaker intellect. There are two such establishments in Dresden, one for the old town and the other for the new town, on the west and east sides of the Elbe respectively. The number of children here was 104, divided into six classes. The lowest class (nineteen pupils) was getting an object lesson on a house and household, both the schoolrooms and pictures being used in illustration of the lesson. The children were trained to think a little while before answering, and then to speak very slowly and distinctly. The teacher's manner was very quiet and patient. The children once they enter this school do not return to the ordinary schools (compare this with arrangements in Gorki.) They have a much simpler programme than the children of average intellect. The course is—

German—Reading, spelling, writing, and composition.

Arithmetic—Numbers as far as 1,000, with easy exercises in money, weights and measures (all decimal).

Heimatkunde (geography of neighbourhood).

Drawing—Geometrical figures and easy curves.

Natural History—Elementary.

Singing.

Gymnastics and drill.

Manual training for boys; sewing for girls.

The highest class children write well, but spell badly. Their composition was fair. They are taught to write a simple letter and put it in an envelope which they address. They learn also to fill up a simple account form and receipt it. The manual instruction of the three junior classes comprises stick laying, paper folding and paper cutting of the Kindergarten system; the three upper classes do work according to their strength and taste, including paste-board work, plaiting (foot mats, bottoms of cane chairs, &c.) and branch work. Much of the boys' work was very good, and their success must have been a source of mental encouragement to the poor fellows. Very few of them were, however, of what is generally called weak intellect. In the ordinary school a third class was receiving a lesson in writing; this was done in regular hands, as in all Dresden schools. At first the letters—*ch*—were written in the air, each stroke being counted; then the same process was repeated on paper with empty pens, then with ink. Afterwards a whole word was written. One girl counted as she wrote; if she went wrong the whole class took it up and carried it on to the end. For class instruction this method has many advantages, but there seems an unnecessary amount of mere drill and artificiality about it.

The youngest class had a very good lesson in reading words with the letter *O* in them. These were made up with block letters by the teacher and read out the phonic method. After each word was made out the teacher had some little thing to say about it, or questioned the class on it; then the children wrote it in their books. These children had been only six months or less at school.

In the afternoon I saw a class at paste-board work in one of the pupils' workshops. The course lasts six months. Twelve boys were present working diligently, but nearly all at a different step. The work was not systematic, and teaching was individual.

Went thence to the new Training College at Hagen (Dresden), a very fine building, with a well-selected stock of apparatus for teaching natural science and natural history. There are nearly 200 resident students undergoing a six years' course of training to become elementary school teachers.

I visited an educational depository in the evening and saw a large collection of school requisites. Physical apparatus for a full-sized school could be bought for about £7 16s.

22nd Sept.—I visited one of the two Chemnitz cookery schools, opened in 1883. The kitchen is a fine room, 66 by 35 feet. The house and all apparatus were provided by the town. Every week six classes of forty girls each are held, so that in each school 240 children receive weekly a cookery lesson of four hours' duration. Each class stands from seven to eleven o'clock on one day in the week. The course of instruction is almost identical with that described in the foregoing part of the report as seen in Berlin. A little meat is cooked, a great deal of soups and vegetables, but no bread, and only one cake. Four girls work at each table and range, these ranges are of the simplest construction, and cost only 16s. each. Coal is the fuel used.

The girls pay nothing extra, and have only to provide themselves with a cookery book (6d.), a rubber spoon for cooking in, and a wooden spoon for wear while washing up. Only poor girls from the highest class in the different *Beurk* schools of the town are admitted. Each girl gets about forty lessons, in-

cluding tea in washing and simple laundry work. The girls do less writing here than in the Berlin school. The cost of these classes is about £290, including the salaries of the teachers, materials, &c. No classes are more popular than these cookery classes. Ordinary certificated teachers are not employed to give this instruction; it is given by special teachers who have undergone a course of training in cookery—one in the school at Chemnitz and the others in Chemnitz or elsewhere.

There are no female certificated teachers employed in any primary school in Chemnitz; workmistresses are employed to give instruction in needlework. The "*Beurk*" schools are of two classes—one in which the children pay 4s. a year school fees, and in which the number of children rises to fifty or fifty-five, the other in which the fees amount to 36s., and the classes do not exceed forty in a class. In the "*Burger*" schools the fees are as high as £1 a year.

23rd Sept. Leipzig.—I visited the training college of the German Association for Manual Instruction in Schürichenstrasse, Leipzig. The autumn course was in progress; there were about twenty students undergoing training—a slightly smaller number than last year, when I underwent a five weeks' course of instruction here in paste-board work and chip carving. Dr. Götz, the Director of the College, is satisfied that the course of boys' manual training is making progress in Germany, though slowly. He admits that a majority of the German teachers are against its introduction into the ordinary school curriculum, though many of them acknowledge that the training has great educational advantages. The apparent retrogression in France he attributes mainly to manual training having been made universally compulsory there before the teachers had been prepared for its introduction, and before a proper programme had been drawn up. Simplification of the latter has, therefore, become necessary, accompanied with a reduction of the expenses entailed by the original programme.

The new college is a very fine building, and admirably fitted up for its purpose. The following is extracted from its programme for 1897:—

PROGRAMME OF THE TEACHERS' TRAINING COLLEGE, LEIPZIG.

A. TRAINING COURSE.

Students are at liberty to make a selection from the following courses of instruction:

Kindergarten-work or Preparatory grade of manual training. Instructors, Mr. R. Weber, teacher, and Miss M. Schack, teacher.

Cardboard-work. Instructor, Mr. Heinze, book-binder.

Woodwork. Instructors, Messrs. Kind and Müller, master-joiners.

Woodwork suitable for country purposes. Instructor, Mr. Schwarz, wheelwright.

Chip-carving. Instructor, Mr. Viehweg, sculptor.

Metalwork. Instructor, Mr. Schmidt, master-locksmith.

Metalwork suitable for country purposes. Instructor, Mr. Schmidt, master-locksmith.

Clay and plastiline modelling. Instructor, Mr. Viehweg, sculptor.

Gardening and fruit-tree cultivation. Instructor, Dr. Zorn, assistant and lecturer at the Leipzig University Agricultural Institute.

Glasswork (for the construction of simple physical apparatus). Instructor, Professor Dr. Hübner, Eisenach.

Director and superintendent of the College: Dr. W. Götz, appointed by the German Association for Manual Training.

Besides the above courses for cardboard, woodwork, and metalwork, fresh ones may now be taken up which give teachers an opportunity of learning how

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to make practical use of manual training for the construction of apparatus required for demonstration purposes in natural history, geography, mathematics, and physics. The object in these courses is to point out the special adaptation of cardboard, woodwork, and metalwork. The actual making of physical and similar apparatus is not so much the aim as methodical practice in the use of some of the most important tools.

In the application for one of the three above subjects the student should state whether he wishes to take up the purely technical portion of the instruction, or that which bears on the work in its usefulness in school teaching.

To complete this instruction, especially as regards cardboard and metalwork, a short course has been drafted on glasswork. This is not a separate subject, but merely an easily learnt and useful addition.

By means of these courses we hope to gain the interest of many connected with education (especially teachers in secondary schools, colleges, &c.), for the subject of manual training.

A special pamphlet on this branch of instruction, which stands in such close organic relationship to the ordinary subjects of education, has recently been published and translated into English.

The courses of instruction at the Manual Training College will be open not only to those teachers—men and women—who have had no previous acquaintance with the subjects, but also for those who may have commenced the work elsewhere and desire to continue their studies.

If sufficient students present themselves, there will be four terms each of five weeks duration as shown below.

A. Spring term, Beginning April 22nd at eight a.m. in the assembly room of the Leipzig Manual Training College, Schornhausstrasse, first floor, and ending in the same room at noon, May 26th.

B. First summer course, from eight a.m., June 28th, to twelve noon, July 31st.

C. Second summer course, from eight a.m., August 2nd, to twelve noon, September 4th.

D. Autumn course, from eight a.m., September 6th, to twelve noon, October 9th.

Instruction in gardening and the cultivation of fruit-trees will be given by Dr. Ziem during the spring term and the second summer term, in the garden of the Manual Training College.

Students who cannot obtain leave of absence for five weeks may, by previous arrangement with the director, reduce the time to four weeks.

Teachers, whose holidays do not coincide with the dates of the terms given above may by permission of the director, arrange their courses of instruction in accordance with their holidays as intermediate courses.

Students attending for four or five weeks are at liberty to take up either one or two subjects. If two are chosen, the time is equally divided between them in a course of five weeks, in one of four weeks there will be a principal and secondary subject, to the former of which the greater part of the time will be devoted.

On half holidays, opportunity is given to the students to visit the boys' workshop where classes in various branches of manual training are conducted by well qualified instructors.

Lectures will also be given on the principles underlying the practical work of the subjects chosen by the students.

Free use may be made of the library of the training college and also of the library and collection of models in the boys' workshop.

On certain evenings opportunities are given to the students to discuss questions bearing on manual instruction and exchange views thereon.

B. CONTINUATION COURSES FOR QUALIFIED MANUAL INSTRUCTORS.

In addition to the above courses, the principal object of which is to make students acquainted with the technical side of the various subjects, a continuation course will be carried on for those who are already qualified as manual instructors. Superintendents of manual training schools, masters in colleges, and all teachers with previous experience in manual instruction, will here find an opportunity of going more deeply into the various subjects both theoretically and practically, thus becoming more expert and better qualifying themselves to give instruction in these subjects to teachers. Thus this course will tend to widen as well as deepen the student's knowledge of manual training. It will aid in bringing about a desirable uniformity in manual teaching in Germany, will be the foundation of the college becoming a centre for the attainment of widespread and thoroughly tried methods of teaching, and will ensure further progress.

Students will obtain, on a scientific basis, and in a higher degree than formerly, a comprehensive knowledge of the materials and tools employed and the forms adopted, and a greater grasp of all questions concerning the methods of manual instruction. Exercises in drawing, sketching and designing of models as well as practical demonstrations of the method of setting out and working will be brought into closest relationship with the theoretical instruction.

Only those students will be admitted to this continuation course, who have been well trained in cardboard-work and wood-work (carpentry or chip-carving or wood-work suitable for country purposes) at some institution on the lines laid down by the German Association for Manual Training.

After successful attendance at this course students obtain a diploma certifying their ability to instruct teachers in the branches they have taken up.

The following programme has been drawn up for the continuation course:—

I. Materials, working and construction.

1. Preparatory Grade, Mr. Kall, teacher, Gera.
2. Cardboard-work, Mr. E. Meyer, teacher, Dresden.
3. Wood-work and cutting tools, Mr. Gering, teacher, Posen.
4. Chip-carving, Mr. Neumann, headmaster, Götting.
5. Modelling, Mr. Neumann, headmaster, Götting.
6. Metal-work, Mr. Nümme, teacher Leipzig.

II. Information on tools. Director Neuggemath, Hirschberg.

III. Information on forms in the various branches of Manual Instruction. Mr. Lindemann, teacher in the technical school, Leipzig.

IV. Methods of Manual Instruction. Director, Dr. Götz, Leipzig.

The duration of this continuation course will be four weeks, from July 10th to August 11th, both inclusive. It is hoped that this will be the commencement of developing the Manual Training College into a Central Institute for Manual Instruction.

C.—GENERAL RULES.

At the close of the course of instruction students are granted, if so desired, certification of attendance, the branch studied and the time spent upon it. Diplomas of fitness to teach manual training are granted for each subject. It is not necessary that every branch should be taken up, and any branch taken as a secondary subject in one year may be completed in a subsequent one. But diplomas are granted only to those students who have (1) attended the course

regularly from beginning to end, and who have (3) completed the full set of models for that course without the assistance of the instructor.

Neither certificates (diplomas) nor models can be given to the students before the close of the course.

Such students as have done their series of models before the end of their term cannot get a diploma in advance unless they have made an extra model, appointed by the director. After having finished it without the assistance of the instructor, they will get diplomas and models whether the term be over or not.

Usually these diplomas are obtained by attending the courses as under:

Kindergarten-work or preparatory grade of manual training, as chief subject for two weeks or as secondary subject for four weeks.

Cardboard-work, as chief subject for four weeks, as half subject for five weeks, as secondary subject for eight weeks.

Wood-work, as chief subject for eight weeks, as half subject for ten weeks.

Wood-work suitable for country purposes,	} same as for Cardboard-work.
Clip-carving,	
Metal-work,	
Metal work suitable for country purposes, Modelling,	

Gardening and fruit-tree cultivation, as half subject for two courses of five weeks each.

The fee, payable in advance, including instruction and materials, is twenty-five shillings per week.

Attention is particularly called to the fact, that not only Germans but teachers from abroad are well satisfied at these courses as far as space will permit, and also that both ladies and gentlemen may attend.

The Committee of the German Association for Manual Training:—

Prof. Dr. Biedermann, Leipzig, Honorary President, v. Schenkendorff, Götting, President.

Dr. Neugebauer, Hirschberg, Vice-President.

Dr. W. Gülden, Leipzig, Director of the College for teachers. Vice-President, Schaubornstrasse.

Schmedding, Münster in Westphalia. Treasurer.

Bismarck, Danzig.

The courses I attended last year in pasteboard work and chip-carving were certainly of considerable advantage in training hand and eye.

There is a pupils' workshop in Leipzig in which about 100 boys or more are taught pasteboard work, wood chipping and carpentry on Wednesday and Saturday afternoons. There are also classes for teachers and others in the evening of the same days. Manual work is also practised in a couple of "Horten" (about forty boys in each), and in some other institutions. In no case does it form part of the ordinary school course.

In the afternoon I visited a kindergarten school in Weststrasse, which is under the care of the Ladies' Association for Family Education. There were seventy children present. A couple of other schools which the association maintains have over 100 children each in daily attendance. Altogether in Leipzig 600-700 children receive instruction in kindergarten, but all in private establishments. The municipality subscribes £60 to the funds of this association, the expense of which amount to about £300 a year. The school, like all private schools, is under the supervision of the Government school inspector. No reading or writing is taught, but children have conversation and object lessons, a little counting and drawing, singing, doll, and kindergarten occupations. All this must be dropped when they reach six years of age, and have to go to the ordinary primary school in which kindergarten finds no place.

24th Sept.—I visited Dessau in the Duchy of Anhalt. The secretary of the Education Department told me there was manual education for boys in

the principal towns (Dessau, Köthen, Bernburg, and Zerbst), but that it formed no part of the ordinary school course. The teachers who conduct the classes are however allowed to count the time so employed as part of their duty hours, but then of course they do not receive extra pay for giving manual instruction. The classes are taught on Wednesday and Saturday from 2-4 and 4-6 o'clock. The children pay a fee of 6s. a year, which covers the cost of materials. The number of boys under instruction in the workshop is forty-seven—a small number for a town of about 40,000 inhabitants. The branches taught are pasteboard work, woodchipping, and bench work. The public revenue is chiefly derived from the profits of salt mines. Five-sixths of the expenses of education in the duchy are paid out of general public funds; the other one-sixth comes from local sources.

In Bernburg fifty-two boys attend manual training classes, and a smaller number from the higher school in Zerbst.

Köthen, a rapidly growing town with sugar factories in the middle of the best country, has a training college for male teachers. The course extends over six years, as in Saxony. All the students (180) are externs. The lower divisions (VI, V, and IV. classes) learn pasteboard work one hour a week, the third class does bench work, and the second class wire and glass work suitable for school purposes (physical apparatus), but these classes also have only one hour a week for this instruction. Both Dr. Papst and Herr Montag, who conduct the classes, complain that the time is too short to be of much advantage, but the students' hours (as high as forty-five in the week) required for other subjects are too many to admit of more for manual training. Herr Montag was trained at the Leipzig College under Dr. Gothe. Dr. Papst has made wire and glass work a speciality. Some of the glass and pasteboard things made by the students were remarkably good, and would prove very useful in giving lessons in physical science.

The pupils of eleven years and upwards in the practising school attached to the training college also learn pasteboard work but for an insufficient time. The conductors of these classes hope greater attention will be given to the matter of manual training in the near future as Herr Runkel, the education minister, is a strong supporter of the movement and a member of the Committee of the "German Association for Manual Training." All apparatus and materials required here are supplied by the State. The cost of fitting up the pasteboard and benchshops was about £75. (The "riddle" school in Köthen has also a class for manual work.) The first class of students in training were having an arithmetical lesson the day I visited. By observations taken at frequent intervals for some hours before and after twelve o'clock the students were determining the exact meridional north and south line, and were noting at smaller intervals changes in the sun-epots with a telescope.

25th Sept., Gera.—I visited a girls' school in Gera, and was shown the drawing classes and their drawings by Herr Kalb, who teaches them. Nearly all the drawing is done from the flat from patterns drawn on the blackboard by Herr Kalb. The freshest patterns for the senior classes are not very elaborate, but require 3-4 hours to complete, from which I gather that the girls do not work very fast. They have done about a dozen patterns since Ruster, and get two hours for drawing every week. The senior first class girls do model drawing and pattern drawing suitable for woven stuffs, which are extensively made here. Rule and compass are allowed to be used in the advanced drawing, and the instruction in this highest class becomes more and more individual. Some of his pupils who drew well got employment (he said good employment) in weaving and colour-printing factories as designers; on inquiry it turned out that the good employment produced a weekly

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income of only seven or eight shillings at least at first, though if work was good and successful payment would improve. The town, which is situated in the principality of Reuss (younger line) is very prosperous with a variety of factories, and has doubled in population during the past twenty-five years. It has now about 40,000 inhabitants. In addition to primary schools it has several higher class schools, a teachers' training college, a continuation school in which modern languages are taught, and a much frequented commercial school in which young men, some even from England, are trained for business. There is only one female certificated teacher employed in all the Gera primary schools, the others, 130 in number, are men. Work-mistresses are also employed, but hitherto they have not been properly tested as to fitness, and are liable to dismissal at any time. In future they are to be examined and to receive permanent appointments. There is no manual training for boys in any of the primary, middle, or higher schools, but in a special school for children of work intellect *Kindergarten* occupations are taken up as part of the ordinary school course.

Some of the poor parents are employed in factories that a "Horte" has been established here, in which about eighty boys are sheltered, and taken care of from the time the schools close until seven o'clock in the evening. Coffee is provided for them. They pay a fee of 6d. a month. The rest of the expenses are borne by the society which established the Horte supplemented by voluntary subscriptions, and £25 a year from the town or state. All the boys receive manual training. They are divided into three classes. The lowest is engaged at paper work, and makes also little articles out of the smaller branches of trees and willow rods. The paper things they make are readily sold, especially at Christmas time for decorating Christmas trees—a universal German institution. The middle class is employed at pasteboard, or cardboard work. As much of it as possible of a useful character, such as portfolios, inkstands, letter boxes, &c., which are also sold, or supplied for use in schools and public offices (even the Diet of the principality gets them). Many of them are also ordered by merchants and shopkeepers beforehand, but the teacher (Herr Kalb) refuses to allow the boys to be employed for a great length of time making any one article for sale as if they were young factory hands, as he wishes to make the course of instruction educational. The upper class does carpentry work, and in it also an endeavour is made to produce useful articles, but at the same time furnishing good hand and eye training. The greater part of the expenses of fitting up the workshops which amounted to £75 was borne by the town. Seven teachers, including Herr Kalb who superintends, are more or less employed here. Herr Kalb attaches great importance to manual training, and the means it provides of showing things in the concrete (*Anschauung*) to the children. He says the directors of the higher schools and rather more than half the ordinary primary teachers are against the introduction of manual training into the school course. People look for an immediate return from this training in the shape of £ s. d., which of course cannot be expected from it.

Here young children of six years are allowed to go to the high school. The teachers and the "Diet" are trying to hinder this, but so far the Prince has refused to sanction the prohibition.

To illustrate the different position the teachers occupy in Germany, I may mention that Herr Kalb is a member of the town council, and of the Diet of the principality, and I believe at least one teacher is a member of the German Parliament. Subsidies are paid for such teachers when they have to be absent from their schools on this public duty.

27th Sept.—I visited the Delitzsch Training College, almost, if not the only one in Prussia in which manual work is taught inside the institution to the

students. There are 130 students undergoing a three years' course of training, of whom seventy-five are externs. There is also in the immediate neighbourhood, but with a separate staff of teachers and in a separate establishment, a preparatory institution in which boys receive three years' special instruction before entering the training college. It is only the first year's students of the college who are taught manual work. They have a well fitted room, and fairly lighted, though underground. Ten students learn bench work, and twenty-two pasteboard work for two hours on Mondays. The lessons are very popular with the students, who sometimes give extra time to the work, though they have forty-five hours weekly lessons in other subjects. All have to learn the piano and the organ (individual instruction), as well as the violin and singing (class instruction in three divisions). The object of the manual instruction is to enable the students to prepare apparatus for object lessons (*Anschauung*), as the school managers are often very stingy about supplying school requisites.

The house arrangements are not as good as in our colleges, especially the two sleeping rooms in which the fifty-five intern students are somewhat closely huddled together without any partition between the beds. They have separate study rooms in which eight or ten work together. The staff consists of a director, three interns and seven extern teachers. Some of the teachers in the colleges are appointed not long after their own training, and before they have gained much experience in school work. They are not specialists, as most of our college professors are. Herr Staudt, for instance, that conducts the manual training class (he was trained in Leipzig last year), teaches also German, singing, violin, gymnastics, geometry, French, arithmetic, drawing, &c., and so with the other teachers.

Intern students pay £3 a year for board; the meals are—coffee and roll in the morning, dinner shortly after noon, a roll later on, and then supper. There is a fair supply of books and apparatus, but not equal to the other Saxon colleges, such as Göttingen, and very far below the newer Saxon colleges. Delitzsch college was built in 1884. There is a small garden and plot, but the plants grown are rather for botany than agriculture. There is no agricultural instructor. The present Prussian training college regulations date from 1872 changes are expected before long. Students in their first year do not visit the practising schools; in their second year they visit the schools and assist at criticism lessons, in their third year they practice about six hours a week for four weeks at a time, and also have a criticism lesson once a week. Every student must have taught lessons in religion, German, and arithmetic; also in other subjects as far as time will permit—all subjects being taken up, but not necessarily by each student.

There are two practising schools, both under the same roof as the college. The first consists of five classes for the usual eight years' course, the second was a representation of a one-class school under a single teacher. This school had an attendance of 40 to 45 children. The director said it was necessary to have this small school, as a large proportion of teachers had to teach such schools, especially in the eastern provinces, and partially in Hanover and Westphalia. The pupils for the practising schools are secured in this manner. Before Easter an advertisement is put in the local paper that so many children are required. The parents come and apply for the admission of their children, always at least twice as many as are wanted. Those admitted to the small school are generally the poorest, and in return receive books and other most *ad hoc* gratis. Of course these do not enjoy the course of instruction so far as the children in the other school, which is quite equal to any ordinary primary school. Both boys and girls are admitted. There was very little apparatus in the schoolrooms.

In the small school the pupils of senior division

help with the lower classes. This was the only case resembling our manual system I saw. The teacher, to whom I made a remark on the matter, and it could not be avoided in a one-teacher school.

25th Sept., Weimar.—The teachers of the Grand Daily of Saxe-Weimar happened to be holding their usual meeting this day, and permitted me to be present. Professor Dr. Rehn read an important paper on the improvements to be made in the system of training primary teachers. He condemned the notion that any drill-sergeant would do for a teacher, but also the notion that every primary teacher should have a university training. He did not approve of the present Prussian system of students spending three years in a special preparatory institution before entering the training college, nor yet of the Saxon system, in which the students spend six years in the training college itself. He would have the students after leaving the primary school spend their time until completion of their seventeenth year in a "higher" school, where they would be taught along with youths whose sphere of life will be among the better educated classes of the community, whereby the teacher's qualifications, too, would become much better known and more fully realized by the public at large. It is essential that they should have at least one language in addition to German, not Latin, as he used to think; not French, as many still desire, and as might be allowed optionally on the western border of the Empire; but English, if for no other reason than for the immense superiority of its literature. More time he held should be given to actual working during last two years of training. At present in Prussia only six hours a week was allowed for working in the final year; in Saxony only twelve hours. Some one asked, in the discussion that followed, how time was to be got for this and for extra subjects, such as manual training (a reference that was not favorably received by the meeting). Professor Dr. Rehn replied at once—take some of it at least from the six hours a week given to music; a remark which was greeted with general approval.

The rest of the day's proceedings was of a more private character, and I therefore withdrew.

29th Sept.—Herr John (Weimar) had an exhibition of the work done by his manual training classes. There are about 2,500 boys in the Weimar schools, of whom eighty or ninety come to these classes. All are taught free. They learn pasteboard work, wood-chipping and bench work combined, and metal-work. They may begin at eight or nine years of age, but with metal-work not before ten. There are five classes, of two hours each, taught by two teachers on Wednesday and Saturday afternoons. The classes are taught in special rooms, and form no part of any primary school. The pupils' work is sold at the end of the year at cost price of material—the boys having a right of pre-emption. All expenses connected with the classes are borne by the town, the Burgomaster of which is a strong supporter of manual training. The things for the metal class cost about £40; they seemed very complete for the sort of work done. The boys are expected to make their own designs. The drawings on view in one of the primary schools of the town were very good.

30th Sept., Hildesheim.—Herr Baumann, the conductor of the manual training classes, showed me the workshops and fittings, and gave me the following information about the arrangements here:—

The institution is open to all boys attending schools in Hildesheim. They have to pay a fee of 2s a quarter (8d. of this for materials); the rest of the expenses is borne by the town. The fee produces about £70; the town's contribution is about £120. Preparatory work is taken up by boys of eight or nine years, pasteboard work, wood-chipping and bench-work by those who are somewhat older. From four to six teachers are employed according to the number of pupils, which is generally about two hundred.

Each teacher gets £7 10s. a year for a weekly lesson of two hours; and fifteen such lessons are given on Wednesday and Saturday afternoons. Of the boys that attend the classes, nearly seventy-five per cent. belong to the primary schools. The teacher has devised a very elegant arrangement of benches in the carpenter's shop, which saves much room and adds greatly to their stability. Instead of having twenty-four separate benches, he has had four sets of six benches made all in one piece, and most securely fastened to the floor by a very ingenious device. These classes are quite separate from the ordinary school courses.

The neat arrangements made here and elsewhere for the putting away of the tools show how much care and thought is given to their work by the conductors of their classes.

Herr Baumann told me there was a local inspector here as well as a Government district inspector; and as the former was a "schoolman," a specialist, the district inspector leaves to him the examination of pupils for promotion.

Model drawing is taught here in the highest class on the Hamburg (Stahlmann) system; but it has proved too difficult and is to be given up.

There is a so-called trade school in Hildesheim, which is really a continuation school. Connected with some chemical works is a large technical school. Such schools are very general. In a Hanoverian paper of this day I saw advertisements of many classes to be begun next month—classes for mowing and pressed yeast, for engine drivers, for engine drivers, &c.

1st October, Osnabrück.—I called on Dr. Dierckx at the Teachers' Training College in Osnabrück. The college is not a very good house. Ninety-five students are in training, about half of them being resident. The course of instruction is the same as in other Prussian colleges, except that only five hours a week are given to music, and that each student spends two hours every week in the manual training school. The association for promoting this latter has an excellent house given them by a merchant in the town. The State gives £50 a year, the province (Hanover), £33, and the town £30, towards the expenses of the workshop. The students of the training college pay each 5s a year; all other pupils are free. Instruction is given only in the winter six months. The course is a modification of the Swedish *Sloyd*, combined with a certain amount of wood-carving. There is a regular series of articles to be made, divided into groups of three to five models, of which each pupil must make at least one. Instruction is given, not by ordinary school teachers as elsewhere, but by five tradesmen (carpenters), which is a cheaper arrangement, as each is paid only about 1s. a lesson. The lessons last two hours each. The longest appointed teacher exercises a general superintendence over the school and keeps the books. It is his duty to note what articles each boy makes, and to see that he does one from each group, to keep a record of what has to be paid for each article at cost price of material, and a record of the amount each boy pays. Nothing has to be paid unless the boy wishes to take away what he has made, as most of them do. These fees nearly cover the cost of materials; and the other sums mentioned above, together with the subscriptions of the members of the association, are sufficient to defray all current expenses, including additions to fittings, tools, &c. The boys are most regular in attendance, and the classes are extremely popular. There are thirty-seven benches. About 500 pupils, including the 55 students in training, attend the classes every year. It is certainly one of the most flourishing woodwork schools in Germany. The instruction forms no part of the ordinary school course of the children.

2nd October, Münster.—The Münster schools differ from those I have seen in other large German towns in being much smaller, and having only two or three teachers each. There are only two schools in

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APPEAL B. Minister having as many as six teachers, and these are both new schools in the outer parts of the town. The smaller ones are survivals of the old parish schools, and still bear the parish names. They are all divided into boys' and girls' schools, the boys are taught by masters, the girls by mistresses.

In St. Agidii there are three masters. The lowest division contains boys in first and second years of school attendance (six-eight years of age); the middle division those of third and fourth years—about eighty in each division. The highest division had twenty-two boys of fifth year, forming the second class, and twenty-seven boys in sixth, seventh, and eighth years, forming the first class. So each master in the lower divisions had to teach eighty boys in two classes; and the head master had about sixty boys that were really in four different stages, but taught in two classes. The falling off of boys in the senior classes is due to their leaving for higher schools. There are two periods at which they commonly leave—Easter and Michaelmas—and they are not necessarily examined before leaving.

I heard the boys of the senior classes at their lessons. The sixth, seventh, and eighth were at decimals, partly mental, partly on the blackboard by the boys. The work was not particularly good, and at least one error was passed over uncorrected. The teacher set them to do the same sum (addition) by vulgar fractions, one little fellow in seventh school year could not do it. The teacher said they forgot vulgar fractions very quickly when they had been at decimals for a while.

The other class read very fairly, but only a short sentence each and occasionally loud. These seniors have only one reading book (370 pages) for their four years at school, and even so do not read through all the lessons. At the end of the book are lessons on book-keeping (simple accounts) and specimens of letters. Spelling in German being practically phonetic, the quantity read is of less consequence than in English schools. Explanation of the lesson was good, questioning on the meaning of single words was quite subordinate to bringing out the drift of each sentence, and of the whole lesson. A summary of each paragraph in a word or two was written on the blackboard and used for repetition.

A lesson in geography followed. Teaching began with a few repetition questions on the two hemispheres and five continents, then went off to the stars, latitude and longitude, climate, &c., returning then for a more minute lesson on Westphalia and Prussia.

At the beginning of each year the head teacher has to draw up a synopsis of weekly lessons to be taught for the next twelve months, which has to be submitted to, and approved by the district inspector. This has to be followed pretty closely, but a reading lesson or a composition may be altered occasionally if thought advisable. A daily record of the particular lesson taught in each subject and class has to be kept by each teacher.

Drawing is only freehand and drawing to scale with ruler. The junior classes use paper with squares, the seniors unruled drawing paper. The teacher hangs up the pattern before the class and develops it himself on the blackboard, drawing just as much at a time as the class is to do at each stage. The work done by the pupils was fair. In judging this matter and comparing the work with that done in Irish schools one must remember that almost all elder children in every school must be taught; here it is taught in only one-sixth of the schools, and in these even the teacher may select the pupils to be presented for examination.

There was a moderate amount of apparatus in this school for science teaching.

The weekly hours for the senior classes are twenty-nine. The head master teaches twenty-four hours a week, the assistant twenty-six.

There were two local maps, like the Irish inch-maps,

in the room for the middle division, not coloured; also several coloured maps and an arithmeticon.

These parish schools are too small to allow of better arrangements; they have only small yards for playgrounds, and have no gymnasiums.

I paid a short visit to a kindergarten—a "play school," as it is called here—kept by nuns. The children sing songs, are allowed to scribble on slates, have little games, and get conversation and decent lessons. More done in summer than in winter, and all of course are under school age. These nuns had about 200 children, and they told me there were eight or nine such institutions in Münster, which has a large number of religious communities. Half the children in this school paid nothing, the other half kept in a separate house, pay from 9d to 1s 6d a month.

In the afternoon I visited the St. Ludgeri school. The second year pupils were knitting not in the usual German manner, but more in the English way, and not all of them the same, class teaching did not seem here to have produced a uniform system. The younger first year children were of writing, in which they showed good progress.

In the boys' school the head teacher had thirty-two boys in fifth year writing composition, and forty boys in sixth, seventh, and eighth years at reading and explanation. The lesson was only thirteen lines long, it was read several times, and the subject matter and explanation were very fully gone into. At the next change all the boys of this division went to history. The matter of the lesson was very fine, well connected with the town and with the geography of the locality wherever possible.

In the St. Agidii girls' school the senior division was at needlework; the specimens were well done, especially the patching, for which great is always used so as to teach and oblige the girls to patch the pattern. The programme of needlework in the Münster schools is as follows for each year of a girl's school time:—

First year.—None.

Second year.—Knitting.

Third year.—A sampler on canvas.

Fourth year.—A sewing-square to show first running, back stitch, feather stitch, &c., on a single fold of cloth, then hem, top-stem, running, backstitch, &c., on double or treble fold, button holes, loops and eyes, sewing on strings, buttons, &c.

Fifth year.—During stocking web.

Sixth year.—A girl's chemise; not only sewing, but cutting it out as well; here done at first in paper before cutting the cloth.

Seventh and eighth years.—A woman's chemise, patching, fine drawing and darning cloth.

Drawing begins in the Münster schools in the third school year; for two years dyed paper is allowed, and ruling in some cases. Then in the senior division ordinary drawing paper is used. The square, triangle, oblong, pentagon, hexagon, circle, and ellipse are drawn, and patterns with curves developed from them. In the St. Agidii girls' school, the teacher merely shows a large pattern before the class, explains to the children how it is to be drawn, and then lets them work away. The drawing in this case was no better than may be found in second stage of fifth class in a fair Irish school.

There is a seasonal training class in Münster, but open only in the six winter months, and the session was not to begin for another ten days. Herr Landwehr-Schmieding, who is one of the executors, and treasurer of the German Association for Boys' Manual Training, gave me the following particulars about this class. It was started by him eight years ago. From the town, the province, and the Government, he got the necessary funds (£50), and the State paid also the expenses of three teachers in the Leipzig Training College. A very little part-board work =

done by the younger children, but most of the boys do wood-chipping. These teachers are employed from 4 to 6 o'clock on Tuesday and Thursday afternoons, (these are the Master half-days). They are paid 8s. a lesson. The boys are divided into three classes of fifteen or sixteen. They pay 7s 6d. or 8s. a session, which about covers the expenses of teachers and materials. These fees are unusually high.

The classes are held in a house belonging to the municipality. Herr Schmieding says much good work is done by the boys, both from the higher and primary schools. They attend on different afternoons. To show the usefulness of the class, he said his own son, who could not even drive a nail, and was always poring over books, now can and does make himself handy about the house, and at the same time continues to like his books. Another boy, who would have gone into an office as a poorly paid clerk, developed such skill that he has become an apprentice, and is soon to turn out a very superior cabinet-maker.

Herr Schmieding intends asking the Government and town authorities, with both of which he is connected, for funds to start a carpentry class.

The following paragraphs, which are extracted from German school newspapers received since my return home, may be thought of interest:—

1. The Imperial Court of Law has given a noteworthy decision. A teacher ordered a boy in a continuation school during the hours of instruction to leave his seat. The boy opposed himself to this order of the teacher. The latter complained to the magistrate, and the lad was condemned to fourteen days' imprisonment. On appeal the Imperial Court decided as follows:—The teacher who is in charge of the continuation school is to be considered as a State official, whose duty it is to enforce obedience to the commands of public authority. In accordance with this view, opposition to the teacher's authority when in the performance of his duties is to be punished as opposition to public authority. In the case before the court the pupil's appeal must therefore be dismissed and the magistrate's sentence of imprisonment confirmed.

2. The report on the public accounts shows that the Prussian Education Department spent £1,384 in 1896-7, in support of manual training. The largest amount (£210) granted to any one place was to Breslau division of Silesia (in which Neurode is situated).

3. After debate at the Leipzig Teachers' Union (which numbers considerably over 1,000 teachers) it was resolved, contrary to a few dissentient voices, that it is to be acknowledged that in manual training there are educative forces. But the introduction of boys' manual work into the primary schools is not to be recommended both for pedagogic and financial reasons. The chief pedagogic reasons against it are that such manual work turns away attention from the real work of the school, that the school, which should be a place of education, is turned into an institution for a special calling, and that the organization of the public school is disturbed by it. Since manual training corresponds to no general need its promotion must be left to private agency, which should be simply supported by public funds.

4. Most of the school workshops in Austria are maintained by communes and societies. The ministry gives the greatest attention to manual training, and supports its diffusion by considerable grants for teachers' courses. Several of the provincial diets give similar support. Vacation courses are held to supply the want of qualified teachers. In several Teachers' Training Colleges (in Treppau, Carlsowitz, Trautmann, Preberg, and Biehlitz) the students practice it as a voluntary subject. About 1,200 teachers have already qualified, of whom over 250 are in Vienna. The number of pupils taught exceeds 3,000, no doubt a small proportion out of the 3,500,000 children of school age. In most institutions the

pupils pay no school fees, only in a few cases are fees required to defray the cost of materials. Instruction is given in pasteboard work, wood-chipping, and bench work; in odd workshops turning, metal work and modelling are practised. The instruction is generally given by certificated teachers who have qualified in the subject; in a few places tradesmen are employed as teachers. Out of a total of 874 Austrian institutions for boys' manual training, 130 are in Bohemia and Moravia, forty (including twenty-five in Vienna) in Lower, thirteen in Upper Austria, and twenty-seven in Bukovina. There is none in the Tyrol.

4th-7th October. Holland.

The only ordinary schools I visited were in The Hague. In Holland there is no compulsory attendance. Pupils are enrolled from the time they are five years of age, but they are not admitted until they are six years or even, as the schools are too few for the children. They generally remain until they are twelve or thirteen years of age, and attend regularly. Teachers have to keep careful accounts of attendance. The houses are smaller than those in Germany, but are suitable, well-furnished, and provided with adequate apparatus of all kinds. The newer buildings have gymnasia and small garden plots round the houses or playgrounds. In the forty-five public primary schools of The Hague, about two-thirds of the children pay no school fees; the others pay about 1s. a month. The average number of pupils in each school exceeds 300.

There is no general programme for the country or town. The director (i.e. head master) and his staff makes out a course of instruction which is submitted to the Government Inspector for approval.

The teachers are paid from about £40 to £120 a year; the head masters as high as £160, with free house. About one-fourth or one-third of the salaries are paid by the State, which also pays the pensions at sixty-five years of age. A small deduction of 2 per cent. from the salaries is made for this. The rest of the salaries is paid by the town and other communes. The teachers are recruited from the staff of gymnasia (salaries range from £3 to £8 10s.), of whom the schools in The Hague have about five each on an average. There are also Training Colleges for teachers. Teachers have to pass an examination in ordinary subjects to become assistants, and a further examination to become head-teachers. Most of the latter are men, and most of the schools are mixed—boys and girls. Many of the assistants hold head-teacher's certificate. They are also examined for extent, and granted certificates of competency to teach these. The female teachers cannot teach needlework without a special certificate; but most of the needlework in The Hague is taught by workmistresses, whose salaries vary from about £4 to £10.

The junior classes I visited had some kindergarten clay modelling. This was done without tools of any sort. To make a cube (for instance) the children took a piece of clay, rolled it pretty round in their hands, and then proceeded to lift it gently again and again on their hands, forming one flat face after another until it was rough-shaped; then they proceeded more carefully so as to bring the several sides to an equality and fairly at right angles to one another. A little pasteboard work was also done, but not so well or systematically as this clay modelling. The directors said there was no general introduction of manual work likely at present, as there was no definite public opinion as to its value.

Drawing is taught regularly to all pupils from their third school year onwards; two hours weekly are given to the subject. It is chiefly freshened, taught from patterns hung up before the class; but the pupils of the highest class do a little model drawing, as first from wire models and then from geometrical solids. The drawings shown to me were fairly done. Needlework is taught somewhat on the German plan, but

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not so good or so advanced. Some darning samples, however, were excellent. Three hours a week are given to needlework in The Hague schools. One of the directors told me that the classes were occasionally taken out for walks in the neighbourhood as in Germany, and once a year they had an excursion into the country as an aid to the geography lessons.

I visited a higher class school in which the fees are £10 or £12 a year, but it is also a public school inasmuch as the town pays part of the expenses. Here the youngest children do a little clay modelling, and some paper-folding and paper-cutting. The "cuttings" are afterwards pasted into books and drawn. Higher classes do more advanced work of the same kind. [This appears to be the French system of manual training in schools.] The highest classes do Swedish Sloyd. The juniors devote from six to eight hours a week to this work, the highest classes five hours. It is the most popular lesson.

Inspectors visit about once in three years, and on that occasion spend a whole day in the school. Promotion of pupils is dependent chiefly on the recommendation of the class-teacher after conference with the head master.

Every province in Holland has a trade school (*Amchtschool*), to which boys are admitted after leaving the primary school, generally when about thirteen years of age. The course lasts three years and is really an apprenticeship, but much more effective training than apprentices receive anywhere now-a-days. In the *Amchtschool* school in The Hague drawing and book subjects are taught for six hours a week, and the practical work has to be done from drawn models. The hours in the school are from eight to twelve, and two to six every day. Excellent work is done. Most of the boys pay ten florins (16s. 8d.) a year (a few have free places); each boy costs about £8 a year, that is £2,000 for the 240 boys belonging to the school. This amount is made up by the subscriptions of the members of an association, with grants from the Government, the province and the town. There are altogether fourteen such schools in Holland, some larger and some smaller than this one. It has been in existence many years. The subjects taught include carpentry, cabinet making, modelling, wood-covering, copper and tinplate work, iron work, painting and varnishing, marble cutting and polishing, &c.

I visited a cooking and housekeeping school, which is held in a very fine house with marble hall and marble slabs in the kitchen. It is attended by thirty or more boarders who pay each £80 a year, by sixty or seventy town girls who want to earn their living by becoming cooks or housekeepers, and who pay a moderate fee. Instruction is also given to 100 poor children free. They receive a two-hour lesson every week, two batches of girls being taught every day. The number in a class is limited to eight or ten girls. The school was got up by a joint-stock company; it receives no aid from the Government or town. The above poor children cook only the simplest things which they eat after the lesson is over. The other girls learn not only cooking, but washing, ironing, &c.

There is no agriculture taught in primary schools in Holland. The following is a brief sketch of the agricultural institutions of the country.

The great central training establishment is at Wageningen, in the province of Gelderland. It consists of four parts:—(1) A preparatory, and (2) a larger school, in which the ordinary education of the pupils (nearly all of them) is continued (most of them pay about £3 a year for instruction, they board and live in the town); (3) an agricultural school (eighty pupils) in which the instruction is chiefly theoretical, but to which is attached a

small farm of about fifteen acres, fully equipped with all sorts of necessary implements and animals; (4) a horticultural school (twenty pupils) about ten acres in extent. In this instruction is mainly practical; the young men assist in the work of the peach-plant, pot, prune the trees, &c., &c. It contains several green houses.

Each of the eleven provinces has a travelling teacher or agricultural inspector, who has been prepared in Wageningen for his position. He has to pass an examination for it, which requires several years' preparation. Six of them have winter schools in which boys of fifteen are admitted for a two years' course—from October to April. There is no farm attached to these winter schools. The boys have probably been at farm work since they left school three years before. They have lessons for twenty-three hours a week. They come from the whole province. So far the classes, which have been established four years, have not been well attended, and only about eight or ten pupils attend each winter. The course is nearly the same as in Wageningen, but not so advanced. The Inspector gets about £50 a year for apparatus, seeds, plants, implements, &c., of all of which he has a good supply.

The next lower course comprises the classes, at present about twenty five in number, similarly taught by ordinary school teachers who have got certificates of competency to teach agriculture. They receive a small addition to their salary, and are allowed about £3 a year for apparatus. The pupils get instruction about six hours a week. There is no farm attached.

In addition to these there are two horticultural inspectors who instruct in their neighbourhood, as is done at Wageningen; and five itinerant dairy instructors, who go about and give lessons in each place for four or five weeks at a time.

Probably the most useful part of the agricultural instruction is the cultivation of the experimental fields (varying in size from half an acre to three acres). Of these there are about twenty in each of the eleven agricultural inspector's circuits. The Inspector visits each field several times in summer to see that the farmer is carrying on the cultivation of the field according to instructions. All neighbouring farmers are invited to meet the inspector during his visit, and to observe the working of the field, and the result of the cropping. Sometimes the object is to find what variety of a crop is best suited to the soil; sometimes to show the effect of different manures on the same crop, &c. The farmer has to make accurate returns of the result of the experiment. He gets either seed or manure free, and about 35s. for his trouble and for loss of land, if any. Herr Kaketeels, the inspector in Goes (province of Zealand), considers these experimental fields very useful. There are twenty-one of them in his province; the cost of carrying out the experiments is less than £50, or £3 a field, including expense of printing and such like. Farms in Zealand are about 100 acres in extent, rent 35s. an acre. Last few years have been hard on Dutch as well as Irish farmers.

Agricultural inspectors also give lessons every Saturday during the six summer months to such teachers as are preparing for agricultural certificates, so that the twenty-five now teaching may be increased to 100.

In Goes there is one of the *Amchtschool* schools mentioned above; but it is small, and only carpentry and smith's work are taught.

A. PINNER,

Head Inspector of National Schools.

4th November, 1897.

II.

Report on MANUAL and PRACTICAL INSTRUCTION in the ELEMENTARY SCHOOLS of SOUTH GERMANY and the German-speaking Cantons of SWITZERLAND.

By Mr. T. W. ROLLESTON.

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On October 13th, 1897, I began to make inquiry into the systems of Manual and Practical Instruction carried out in connection with the public Elementary Schools in the German-speaking Cantons of Switzerland. I remained in Switzerland until October 31st, and spent from that date up to November 16th in South Germany. The principal centres visited were—in Switzerland, Schaffhausen, Zurich, Bale, and in Germany, Strassburg, Karlsruhe, Stuttgart, Manich, Nürnberg, Frankfurt-am-Main, Cologne. Several places of less importance, or in country districts, were also visited from these particulars of which will be found in the Diary appended to this Report.

So similar are the main features of the movement in favour of practical education in the various territories of South Germany and Switzerland, that the bulk of the information obtained may easily be reduced to a generalised statement applicable to almost the whole field of my inquiry. It may, however, be here noted on general that Strassburg presents some peculiar features in regard to the subject of manual instruction for boys and needlework for girls.

The inquiry is very soon made aware of a sharp distinction between the principles applied to one of the main subjects of his investigation, and those in vogue with regard to the others. Needlework for girls, in the form of knitting, sewing, mending, making undergarments, and simple embroidery, has long been an obligatory part of the school programme. On the other hand, manual and practical instruction for boys, and practical instruction for girls in the shape of cookery and general domestic management, are new subjects, only partially adopted by the authorities, and the arrangements connected with them are still in process of development.

Very noticeable in regard to these subjects is the part played by voluntary organisations working with more or less aid from public funds. These societies are sometimes entirely composed of Elementary School teachers, who are interested in the subject; so, for instance, the "Lehrer Verband" of the Rhine Province, which is training some 1,700 boys in manual work; or they may be open to the general public. It frequently happens that the officials representing the local school administration are the heads of these organisations, but they do not hold this position *ex-officio*.

The initiative of the movement now spreading over Germany is certainly due to voluntary effort, and by such effort it is still largely maintained and extended. Even in a subject so thoroughly adopted and regulated by the State as needlework for girls, the part played by the voluntary societies in the form of "Frauenvereine," or Women's Associations, is still very great, their special sphere being the training of teachers.

Both the central and the local authorities appear to aid these societies freely, the view being that the existence of such a body implies a certain disinterested zeal, of which it is wise to make use. Inspection, of course, accompanies any financial aid given from public funds, but the arrangements in this respect differ much in various localities, and are sometimes very informal, though, perhaps, none the less effective. In one school of handloom, which receives free premises and 800 marks a year subvention, I was informed that the State inspection consisted solely in the fact that the Minister of Public Instruction, who was personally interested in the work, occasionally looked in to see how things were going on.

Speaking of educational arrangements in general, I was surprised to find how flexible they were and how capable of being adapted to the needs and circumstances of different localities. This flexibility is much

favoured by the forms of local administration in the Commune. The unit of local administration is the Commune, in German, "Gemeinde." Each Commune has a "Bürgermeister," or mayor, and elective council. It consists of one village, town, or city, with the "Ban" or territory pertaining to it. The city of Strassburg is one Commune, like the smallest village of Elsass. A number of Communes—generally about a hundred—see grouped into a "Kreis," or Circle, with a responsible inspector, and six to eight Circles usually constitute a "Baurk," or District, at the head of which is a President. Sometimes it may happen, as in Bavaria, that the term District is applied to the subordinate group and Circle to the superior one, but the institution of the Commune is much the same everywhere, and thus is the really important body in determining the nature of the education given. It is obliged by the State to establish schools, and to give a certain minimum of education, but it may go much beyond this minimum if it chooses—it will even be liberally helped by State funds if the object is approved, and if it desires a particular bent to be given to any part of the educational scheme in its own locality the superior authorities do not stand in the way. I may mention two instances to illustrate the manner in which free play is allowed to the Commune, even in dealing with the established school curriculum. In the city of Cologne it was resolved, about two years ago, to try the experiment of teaching cookery and domestic management, to a certain limited extent, as an obligatory subject in regular school hours. A school kitchen was accordingly set up, with accommodation for a class of twenty-four girls, and one hundred and forty-four pupils were drawn from six neighbouring schools, and given each one lesson a week. The manner in which this subject was fitted into the Prussian school code was as follows.—The code makes no mention of cookery lessons, but it does of natural science. The school authorities in Cologne argued that there is a great deal of natural science in cookery, and that lessons in physiology and chemistry could be very appropriately combined with this subject, accordingly they determined that natural science for girls in the schools above mentioned should take this particular form, and it has done so ever since. Whether the superior authorities, if their consent had been asked, would have formally approved this interpretation of the code is admitted to have been a matter of some doubt, but when the school kitchen had been founded, and was evidently doing good work, they accepted the accomplished fact without demur. A second cooking school, on the same lines as the first, was opened on the day of my arrival at Cologne.

I shall take my second instance from a widely different locality—the little village of Rittersheim in Unter-Elsass. This Commune lies in the midst of a fruit-growing district, and it determined to introduce fruit-culture into its school curriculum. It accordingly voted a plot of ground for the purpose, and decided that lessons in natural history and botany should be illustrated by the tending of fruit trees, picking them of various insects, &c. The authorities not only made no objection, but strongly approved the action of the Commune, which is being initiated by a number of other centres in the same district. During my stay in this neighbourhood I attended a conference of teachers on the subject of fruit-culture, with an exhibition of fruit and methods of culture, nearly all the expenses of which, including subsistence and travelling allowances for teachers who attended it, were paid by the Government.

The general aspect of the system may be summed up in one sentence.—Initiative from below (the

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Communes), supervision, control, and financial aid from above (the State).

Before referring in detail to the subjects on which we have been directed to make inquiries I desire to call special attention to the institution of the Continuation Schools in Germany and Switzerland. It is more through this institution, than through the "Volksschule," that the State does whatever it is doing for "practical" education in connection with the Elementary School system, and it is mainly here that we must look for the source of the superiority of the German artisans, with which recent enquirers into the industrial progress of Germany have been so strongly impressed. I have already spoken of the Continuation Schools as a part of the Elementary School system, for not only is the connection with the Primary Schools historically and actually a very close one, but the Continuation Schools have even been declared obligatory by the Governments in Bavaria, Baden, Württemberg, Saxony, and several cantons of Switzerland (representing a population of some 17,000,000), and the evident tendency of educational progress in Germany is to follow the lead of these States, and to pass through the Continuation School all boys who do not proceed to some of the higher branches of education in the regular commercial or classical schools. And beside this tendency to make the Continuation Schools obligatory we observe another tendency, to give the education they afford a strong "practical" turn.

The compulsory Continuation Schools, in its original form, a very ancient institution, for although the Continuation school, as it now exists, is a very different thing from the old "Sunday and Holiday School," yet the former undoubtedly grew from the latter. These Sunday and Holiday schools were intended to prevent pupils, on being released from the Primary School, and entering upon their calling in life, from forgetting all that they had hoped to need for, and they existed "aus uralten Zeiten" and from times when all popular instruction was mainly of a religious character. Württemberg appears to have taken the lead in the transformation of these schools into the modern Continuation School. So long ago as 1818 a voluntary association formed under the presidency of Queen Katharine (the Wohlthätigkeitsverein) addressed a Note to the Ministry in which the absence of practical instruction, as a preparation for commerce and industry, is dwelt on as "one of the causes why the industrial arts and handicrafts of Germany are so far behind those of England." It is stated that the existing Sunday and Holiday schools give instruction only in religion and morals, and it is urged that practical subjects should also be treated as them, and pupils prepared for their calling in life. The Ministry referred the note to the Evangelical Consistory and the Catholic Ecclesiastical Council, bodies which then, as now, had the main share of control in educational matters in Württemberg. These bodies reported favourably on the suggestion of the Association, dwelling however on the fact that, contrary to the statement of the latter secular subjects such as reading, writing, arithmetic, &c., were already included in the programme open to the Sunday and Holiday schools. Steps were immediately taken to induce the Communes to form "Sunday Industrial Schools", beginning with the larger towns; and by the year 1836 we find eighteen of them in existence in Württemberg. They are now in every Commune.

It is not necessary here to trace in detail the history of this institution, or the manner in which other States adopted it. The name has been changed to Continuation School, but the institution is practically the same as that which was founded in 1818 at the instance of the "Wohlthätigkeitsverein." For a considerable time, attendance remained, in a certain sense, voluntary. Pupils were primarily bound to attend the Sunday and Holiday schools until they had reached their seventeenth birthday—that is to say, for three years after leaving the Primary School;

but they were freed from this obligation if they chose to attend the Continuation School instead. The Continuation School involved only two years of attendance, eighty hours of instruction being allotted to each year. They were intended for boys only, girls being required to attend the Sunday schools. In 1895, however, a forward step was taken. According to a law adopted on March 28nd, in that year, the Continuation Schools form henceforth "a continuation of the Primary Schools" (eine Fortsetzung der Volksschulen), and are thus declared to be an integral part of the Elementary School system. By Art. 2 all Communes are required to provide them for boys discharged from the Primary Schools, and all boys are required to attend them, unless they are receiving a higher education elsewhere, or one which satisfies the local authorities. Art. 3 permits Communes to provide Continuation Schools for girls also, but does not require them to do so. If the schools are provided, the girls must attend on the same terms as the boys. It may be mentioned that the Communes have not, so far, done very much in this direction, there being only about fourteen girls' Continuation Schools in Württemberg, with 400 to 700 pupils. The connection with Sunday in Württemberg is abolished by the law of 1895, instruction being directed to be given on week days, unless when some special circumstances justify the local authorities in retaining the former system. The instruction must be given in the daytime, not the evening. Elsewhere, too, the tendency is to transfer the entire instruction to weekdays and day hours, but sometimes it seems difficult to carry out this reform, though all acknowledge its desirability. In Munich, for example, I found that of the eight hours a week allotted to Continuation work during term, five fall on the Sunday, and only three on week days.

The history and present position of the Continuation School system in Bavaria, in Baden, in Switzerland, and I believe in Saxony, approximate closely to what has been described in connection with the Kingdom of Württemberg. It remains now to indicate precisely the part which these schools play in connection with our present inquiry. Here it is very necessary to check by personal inquiry the statement given in printed reports. It is stated, for instance, that in 1894-5 Bavaria contained 457 "agricultural" Continuation Schools, with 8,588 pupils, involving an expenditure of over £84,000, besides "industrial" Continuation Schools in every town. These terms might lead one to suppose that the classification was more distinct, and the instruction more technical than is usually the case. By personal observation and by conversation with those who, in various capacities, are connected with the working of the educational systems of South Germany—among whom I may particularly mention Dr. Otto May, General Secretary to the Bavarian Agricultural Society. I have arrived at the conclusion that the obligatory Continuation School system of South Germany works for "practical" education more by giving a certain bent to the ordinary school course than by introducing anything like technical instruction properly so-called. The pupils, it must be remembered, are, *ex hypothesi*, engaged in working at their callings while the Continuation course is going on. The system is extremely elastic, the organization and arrangements connected with these schools being, it is officially stated, "intentionally left free in order that account may be taken of local circumstances in each case." The subjects generally prescribed for the Continuation School are, religion, composition, arithmetic, and the "Realien," i.e., history, geography, science, and drawing. In an agricultural district it will be arranged that most of these subjects shall be treated in such a way as to convey knowledge about agriculture—in an industrial district about industries. Composition or "Aufsatz" here plays a prominent part. It consists in writing essays on subjects upon which the pupils have already been instructed by the teacher. They are not required to find ideas as well as language—a

reason system too much in use at home—but to exercise their attention and memory while in class, and to put what they remember in clear form. If the *Arbeits* books, for example, with agriculture, it is evident that a good deal of theoretic knowledge about agriculture can be conveyed through it. The same may be said of arithmetic—lessons books containing examples connected with the business of agriculture being published for use in country districts—while the applications of the science lessons to the subject are easy and obvious. All that has been said of agriculture in the Continuation Schools holds good, *mutatis mutandis*, of the town industries, but here drawing comes to play a very prominent part, models and objects being largely used to give the pupil a thorough knowledge of the principles of his trade and the appliances connected with it. From the Continuation School programme of Upper Bavaria I take the following extract which shows the present general attitude of the State towards this subject:—"Pupils occupied in farming, or in commerce, or in industrial callings such as those of butchers, bakers, &c., &c., who have, at least, no direct need of drawing, may be excused from this branch of instruction, but pains should always be taken to bring home to the parents or employers concerned, how very highly drawing is to be valued as a means of general culture."

We have, then, the Continuation School, either formally established, or in process of being so, as a regular part of the Elementary School system, and we find it provided with a programme of instruction which takes very little in form, while in substance it is capable of easy adaptation to the needs of various localities. In the country it takes an agricultural coloring and in the towns it is industrial. Not only, however, is there the broad distinction on between agriculture and industries, but in the towns the pupils are grouped according to their callings, and each group is provided with a special teacher, and instruction broadly adapted to its needs. Any Commune which desires to afford higher or very specialized form of instruction quite at liberty to do so, but in the great majority of cases the programme is the ordinary school programme and the teachers are drawn from the staff of the Primary Schools, who, with the scholastic training they have received in the Seminars, are quite equal to the requirements of the ordinary Continuation School. It should be noted that the instruction is theoretical, not practical, in form. The only exceptions I know to this rule are the wood-carving, which is taught in some of the Continuation Schools in the Black Forest, and the cookery and domestic management, which form a part of the *obligatory* Girls' Continuation Schools wherever these exist. The main object of the Continuation School is to give the pupil an intelligent understanding of his calling in life—the portion of it is left to be learned in the workshop or on the farm.* Whatever practical illustration may occasionally be introduced is intended to illuminate the subject to the mind's eye, not to afford a training in actual work.

In spite of the fact that attendance is obligatory, school fees are frequently levied. These are fixed by the Commune, and often merely nominal—i.e. to be a year. There is strong evidence that the best results are obtained where fees are paid (*Die Entwicklung und Entwicklung der gewerblichen Fortbildungsschulen*, Württemberg, 1889, pp. 15, 16).

I shall now deal separately with the heads of the inquiry set before me by the Commission on Manual and Practical Instruction.

1.

(a) *Kindergärten*.—I have nowhere found this introduced as an obligatory subject in the Primary School programme. It is, however, much

employed in infant schools, for children between the ages of three and six, and also (in more advanced form) in the "*Kindergarten*," or institutions for caring school children, out of school hours, whose parents are at work in factories, &c. The infant schools are an important feature of the educational system in Strassburg. They are maintained by the city, and though attendance is quite voluntary I found 3,200 children on the books during the time of my visit. Elsewhere both these schools and the "*Kindergarten*" are usually private institutions, though they sometimes receive aid from public funds, or get free premises, which may be allotted to them in the Primary School buildings. Teachers and others connected with education whom I questioned on the subject agreed, without exception, in approving the *Kindergarten* system as a means of developing the intelligence.

(3) *Advanced Kindergarten Occupations*.—These I have nowhere found in connection with the public Elementary School system, but they occur in the "*Kindergarten*," as above noted.

(c) *Manual Work as Wood, Metal, &c.*—In towns of any importance it is now very usual to find facilities offered for training in this kind of work. The ends which it is intended to serve may be stated in the words of the Munich Society for Popular Education, which manages the school workshops in that city:—

"The school workshops are an educational institution. They follow, in the first instance, the educational object of awaking and developing the taste for practical occupation which slumbers in every child, and of promoting his physical development. Through instruction in the school workshops, boys are, at an early age, to be taught to take pleasure in work, and then independence, and confidence in their own capacities, are to be developed and strengthened. Handwork is so peculiarly adapted to train the hand and eye, and to form habits of accuracy, neatness, order, and cleanliness, that it is an excellent means of education. Aiming at no over-early training in actual industries, it still forms a useful introduction to them, in that it involves acquaintance with the use of common tools, and leads to a better appreciation of hand as opposed to head work."

Dr. v. Sosenkendorff, the champion of the movement, asserts that there are now in Germany 600 schools of manual instruction ("*Handfertigkeitschulen*"). It is confined to the last two or three years of school life. The most usual subjects of instruction are:—

Cardboard work.
Wood-carving in the form of "*Kutschke*," or cup-carving.
Carpentry or "bench work."
Metal work.

Modelling in clay occurs but rarely. I have seen little of any other kind of wood-working than "cup-carving," but in view of its remarkable lack of any artistic quality, and the fact that it is found very trying to the eyes, I do not think it will continue to hold the prominent place which it now does in this system of instruction.

The governing idea in handwork for boys is usually that of the Munich Society—to give general dexterity ("*Handfertigkeit*") and to develop the intelligence, not to teach trades. In Strassburg, however, the preparation for a trade is directly contemplated and the instruction is exacting and serious. Lathe-work and

*The State does of course provide (or enable voluntary societies to provide) abundant facilities for popular instruction in agriculture, &c., in connection with actual work, but these arrangements are altogether outside of the Elementary School system.

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locksmaking are added to the usual subjects, and cardboard-work is omitted.

It is usual to find this instruction given by private societies, working with aid from public funds.

At present it is rarely found in country schools. I have, however, heard it urged by high authorities that country districts are precisely those where it is most needed, because it provides interesting and useful occupation in places where time often hangs heavy on the hands. It is also urged that by teaching country lads something of the minor decorative arts they might be led to ornament their own homes, and articles of common use, and thus diffuse a sort of artistic cultivation, more valuable, perhaps, than that of the art schools, because rooted in the actual needs and genuine tastes of the people. The questions of expense and management are, however, difficult to be met by the country Commission, nor must it be overlooked that the movement is still new, and on its trial, and is regarded with very moderate favour in many influential quarters.

(d) *Physical Exercises*.—Gymnastics and some simple drill are nearly always compulsory for boys, and in the town schools are usually so for girls. Two hours a week are devoted to this subject which is taken up from about the fourth school year (10 years of age) onward. The principal schools contain splendidly equipped gymnasia. As an instance of what is usual I may refer to the "Max Thor Schule" in Nürnberg which has a fine gymnasium, equipped, for classes of sixty pupils at a time, at a cost of £500.

Under this head I may refer to the bathing arrangements which are now being commonly introduced in the town schools. All the children, boys and girls, get a warm shower-bath once a week for the promotion of cleanliness and health, and to accustom them to cleanly habits in after life. A good indirect effect is noted in the better care which parents are led to take of the children's underclothing. Bathing is not, so far, obligatory, but is practically universal wherever it is introduced. The necessary time (about twenty minutes) is, at present, stolen partly from the reading lesson, partly from religious instruction. The water is heated by gas. I have seen sufficient for twenty baths heated in ten minutes. It takes 290 cubic metres of gas to provide 5,000 baths, the number given in one month at the Max Thor Schule, Nürnberg.

(e) *Drawing*.—(1) *Geometrical and Freehand Drawing* are usually obligatory for boys in South Germany and Switzerland, except in Württemberg. Here it is optional for the Communes to introduce it as an obligatory subject or not. In the towns they generally do so, not in the country. Girls sometimes (as in Nürnberg) receive no instruction in drawing. Instruction in this subject starts from the basis of geometry, and does not usually get beyond symmetrical ornamental forms. Accuracy and workmanlike execution are the qualities aimed at. Instruction in drawing from actual objects, casts, &c., is rare, except in the Continuation Schools, and some large towns. Drawing usually begins about the third or fourth school year.

I may here mention that one of the highest German authorities on industrial art, Herr Friedrich Reebbach (author of "Ornamente des Gewebes," &c.), considers that the present low state of public taste in the decorative arts is due to the poor and martinet styles used for freehand drawing in the schools, or, at least, might be largely remedied by better ones. He urges that the State should take the matter up, and provide and enforce the use of copies of artistic spirit, which should be arranged so as to

suggest the historical development of ornamental forms, their meaning and relation being explained by the teacher.

Of "Freehand work" I have found no trace.

(2) *Manual work* for boys being a subject quite outside the ordinary school programme, there is practically no attempt to connect drawing with it, but in the case of needlework for girls, their drawing is sometimes taught in connection with simple embroidery. This, however, is a matter depending much on the individual teacher—there are no general regulations affecting it.

(f) *Elementary Science*.—This forms a regular subject of instruction, and is divided into Natural History and Physical Science. Two hours a week are usually given to it, and it begins about the fourth school year. The use of pictures and objects is enjoined, and sometimes we have a certain minimum of apparatus, &c., presented. Thus in Bavaria all Primary Schools are required to possess (and of course utilize) the following:—

1. For Object lessons:—

Pictures suitable for these lessons calculated for 1st and 2nd school year.

2. For instruction in Arithmetic:—

- (a) Counting machine,
- (b) Cube for illustrating decimal system,
- (c) Metre measure;
- (d) Weights and fluid measures.

3. For Geography:—

- (a) Map of the locality showing school-room or rooms, schoolhouse and ground about it, and neighbouring region,
- (b) Political map of Bavaria;
- (c) Political map of German Empire;
- (d) Political map of Europe;
- (e) Map of the World,
- (f) Terrestrial globe with full equipment for showing use of the globe,
- (g) Map of Palestine.

4. For Science lessons:—

- (a) Pictures from the plant and animal worlds;
- (b) A few specimens of the most important minerals and those which occur locally;
- (c) Thermometer and Barometer.

(See "Vorschritten über die Beschaffung der in den Volksschulen unentbehrlichen Lehrmittel," Munich, 1875).

To the above appliances it is very usual in all schools to add the physical and electrical apparatus for use in Primary Schools brought out by Prof. C. Bopp of Stuttgart at a price of £3 2s. 6d., or some similar collection. An illustrated description of Prof. Bopp's apparatus is appended to this Report.

In the towns, of course, schools can and do go beyond the prescribed minimum of apparatus. Thus at Neubauhen, a suburb of Munich, in a school arranged for 2,000 children, I found a very extensive collection of pictures, casts, anatomical models, minerals, stuffed birds and animals, specimens of raw and manufactured materials, physical and chemical apparatus, &c.—the whole costing about £70.

I saw in Munich, an excellent institution in the form of a permanent exhibition of school appliances of every possible description, with a "model" schoolroom.

In the Continuation Schools instruction of this kind may be carried a good deal further than in the Primary Schools, but this depends much on local circumstances.

Simple experiments usually accompany instruction in physics, but I have seen nothing that could be called a laboratory.

(g) *Agriculture*.—Not much is done at present to teach agriculture in Primary Schools, or science as connected with it, except in the form of object lessons in botany carried out in the teacher's garden, or by arithmetic books dealing with the business of agriculture. Certain departments, such as vine culture, fruit culture, &c., may receive attention where the Commune wishes it, and the teacher has a taste for this particular subject, but there is no State regulation or arrangement. It is largely a matter of local custom. In parts of Bavaria it is usual for each child to plant and graft a fruit-tree while at school, and to take it for his school life, and transplant it to his own home on leaving—an excellent method of spreading good varieties of fruit trees through the country.

The manner in which agriculture is dealt with in the Continuation Schools has already been indicated.

(h) *Needlework*.—This subject is taught almost universally in South Germany and Switzerland. (i) The teaching is intended to make a good housewife, not a seamstress or lacemaker, accordingly great attention is paid to mending and patching, but a little embroidery is taught, chiefly in the form of marking linen, and a little drawn-work and simple crochet generally find a place in the programme. Children are taught how to cut-out and make simple garments for their own use or that of their household. Knitting is always included in the programme of instruction. (ii, iii) The general rule is that children bring their own material, and the articles made belong to them. If their parents cannot afford the material, it is supplied by the school, and comes out of the regular communal expenditure. In all cases, however, the children own the work they make, except in Strasbourg, where the Commune both supplies the material and retains the products. The hours of instruction are from two to five in the week.

(j) (a) *Cookery and Domestic Work*.—This subject has of late been coming very much to the front in connection with primary education. Facilities are now provided for it in most if not all towns, and it is being introduced, or extended, as an obligatory subject in several important centres, such as Cologne and Stenwig. It is a regular subject in the Obligatory Girls' Continuation Schools in Baden, and wherever else these exist, and is evidently rapidly on its way to becoming a prescribed portion of the Elementary School course everywhere, though whether it will finally be included in the Primary School course, or be reserved for the Obligatory Girls' Continuation School, now in process of evolution, is open to question. It stands on a very different footing from manual training for boys—the question as to the introduction of the latter subject being still "Shall it be done?" while as to cooking and domestic management the only question asked is "How shall it be done?" Ways and means form a considerable difficulty, and have, so far, confined this instruction mainly to the towns, but the possibilities of extending it are being closely considered.

The type of instruction given is nearly everywhere the same. There is a school kitchen—not usually in the school building—equipped with, say, four cooking stoves such as are used by the working classes, with four tables, and four presses containing utensils of all kinds, and cloths, &c. To each stove is allotted a "family" of four to six girls, the functions of the different members being carefully laid down and exercised by each in turn. The "mother" of the family for the

time being begins by purchasing from the teacher the provisions which the calculator will be required for the day's dinner. She receives for this purpose a small sum of money, about 1s. The dinner is then prepared under direction of the teacher, the table is laid, and the meal is eaten by the pupils, attention being paid to neatness and good manners. The dishes are then washed up, and put by, and the instruction includes washing of tablecloths, dusters, &c., (not clothing.) Class instruction is given in elementary food chemistry, the value of different foods as nourishment, and hygiene. Each pupil has a receipt-book in which she writes out the receipts for each dish prepared, with a calculation of the cost. The lesson lasts altogether two to four hours, and each girl attends once or sometimes twice a week. The pupils are drawn from the two highest classes. When the schools are under communal control the pupils pay nothing—when they are managed by private societies a trifling fee is usually charged. The meals cooked are supposed to be such as an ordinary working man can afford. As an example I may here append a week's menu from the school at Frankfurt a/M.

Monday.—Vermicelli ("Nudel") soup—boiled beef—potatoes and parsley.

Tuesday.—Vegetable soup—butter dumplings—fruit.

Wednesday.—Green corn soup—rasbolen—red cabbage and potatoes.

Thursday.—Potato soup—liver and sweetbread.

Friday.—Oatmeal soup—vermicelli—fruit.

Saturday.—Lentil soup—sausages—cocoa and bread and butter.

These dinners cost on an average 18pf. or about 2d. a head.

II.

The manner in which the foregoing subjects are being introduced—wherever they are introduced—into the regular programme, has already been incidentally dealt with (see observations on fruit culture in Elms and cookery at Cologne). Needlework, sometimes, and (as a rule) drawing have long been included, and the other subjects are outside the course, and are taught on Wednesday and Saturday afternoons, which are half holidays.

III.

Outlining the remuneration of teachers, which will be considered under XII, the expenses connected with manual and practical work may be classified as applied to (a) needlework, (b) manual training for boys, (c) cookery.

(a) The expenses of instruction in needlework are of course practically nil when children bring their own materials, and as this is very generally the case in the districts visited by me, the burden of expenditure under this head is hardly worth mentioning.

(b) *Manual work for boys*.—

1. *Cardboard work*. The cost of equipment is about 4s. for each pupil, and about 5s. a year should cover his expenditure in material.
2. *Metal work*. The vice and tools for one pupil cost 50s., and a pupil uses about 12s. worth of material in one year's course.
3. *Woodworking*. Tools about 3s. for one pupil. The cost of wood may vary a good deal according to what is attempted—about 10s. a year should usually suffice.
4. *Carpentry*. A bench with tools for one pupil costs about £3. About £5 more would cover tools and appliances (such as grindstone) used by all the class in

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common. Cost of material may run to 4s.—10s. a year per pupil.
 5 Modelling. The cost of both clay and tools is very trifling.

(c) Cookery. I have an exhaustive inventory of the equipment of a typical school kitchen at Biele. Omitting fuel it comes to £100 13s. 6d. There are five cooking stoves, intended for six girls each, with all equipments for instruction, as described under 1 (c-m). The cost of food alone for one month came to £3 16s. for a class of twenty-four, attending twice weekly. Fuel would come to about 8s. a month extra. I may give another example from Cologne. Here the equipment for twenty-four pupils cost £101 10s., and the expenses for three months, October, November, and December, 1896, with fifty-four days of instruction, came out as follows:—

Material (food, &c.)	£14 3 7
Fuel	5 12 6
Water	0 7 0
Gas	1 2 6
Total	£19 5 7

IV.

The manner in which materials for practical instruction are supplied may differ much in various places. In the case of cookery they are usually supplied free by the Commune, but sometimes a small school fee (i.e. a house) is levied to partially cover the expenses. The materials for handwork for boys are, as a rule, supplied free, but here also a small fee is sometimes paid. The products are almost always given to the children who make them. I know only one exception to this rule—that of the school workshops in Strassburg. Here it is the rule not to let the pupils make complete articles of any sort, but to keep them as mere exercises in the different handicrafts. Whatever they do make remains the property of the city, which I found to be at present somewhat exercised as to how to dispose of the growing mass of products. Articles made by girls in the needlework classes are, in Strassburg, distributed every Christmas among the poor of the town. Here the materials for needlework are supplied by the school—elsewhere usually by the parents, if they can afford it.

V

Practical subjects are almost everywhere taught by regular school teachers who have undergone special training for this end. No one is allowed to teach any subject whatever who has not had a proper training in the methods of pedagogy, and acquired a considerable amount of general culture. Again, however, we note an exception in the case of Strassburg, where ordinary craftsmen are employed to teach manual work to boys under supervision of a school teacher, who is responsible for discipline.

Instruction in needlework is usually, but not always, given by a teacher appointed for this branch alone; but she has always received a training in pedagogy and a general literary education.

I may observe here that so far as my observation goes the educational value of a lesson in manual work given by a trained teacher is strikingly superior to that of the same subject as taught by an artisan.

VI

The time devoted to needlework, as already mentioned, varies from two to five hours a week. Gymnasiums receive two hours and during the same Cookery usually receives about three to four hours. Handwork for boys is always an extra school subject. The duration of a class is two hours, and attendance varies from once to twice a week. Science receives two hours a week.

In the obligatory Continuation Schools for boys the practical side colours the whole course of instruction, but seldom has special hours allotted to it.

Time-tables of various schools and seminaries are handed in.

VII.

Statistics on the subject of practical instruction (omitting needlework) are not easily obtainable, the master being, as already explained, largely in the hands of voluntary societies. Needlework is practically universal, and it comes into play from the first or second school year. Cookery classes for girls are to be found in most towns of any importance, and from the cases I have investigated, I should say that (when voluntary) they are usually attended by about 50 per cent. of the pupils who are of the eligible age, i.e. from twelve to fourteen years in the case of Primary School children, or up to sixteen and seventeen for Continuation School pupils. There is no doubt that instruction in this subject is widely enough diffused to make it an important feature of education in South Germany. Handwork for boys, though far from being so common, is pursued to an extent by no means trifling. Dr. v. Schenkendorf states that it is introduced in 600 schools throughout all Germany. A rough estimate of the number of pupils indicated by this figure may perhaps be arrived at as follows. In the Rhine Province this instruction is well organized by a voluntary society of teachers, and I have had the advantage of seeing certain statistics as yet unpublished, which are in the possession of the treasurer, Herr Witteler, of Cologne. From these statistics I find that forty-seven Communes in the Rhine Province are giving facilities for manual training, and that the number of Primary School pupils in attendance is 1,718. This proportion, if applied to Dr. v. Schenkendorf's figures, would give about 22,000 as the number of pupils under instruction in all Germany. In Dr. v. Schenkendorf's 600 places, however, there must be a considerable number of training colleges and higher schools. Allowing for these, we should probably get about 15,000 as the number of Primary School pupils receiving this instruction in some form or other.

Cardboard work usually begins with the fourth school year—ten years of age. Metal work (except in the form of easy wire-work) and carpentry are not taught under twelve years of age. Slag (with its preparatory stages) is begun much younger—at nine or ten—but I have nowhere found Slag carried out on the original Swedish system, except in a small private class at Nürnberg.

VIII.

The syllabus for each practical subject in the obligatory programme is laid down by the chief inspector or other authority in a "Lehrplan" or book containing the prescribed form of instruction for the district in question. It states what is expected to be accomplished in each school year, or season, and goes into much detail, but I understood that a good deal is left to the discretion of the teacher as to the actual working of the plan. As an example of what is prescribed, I may quote the instructions as to actual history from the programme of the schools in the Weissenburg district, Unter-Elsass:—

"LOWER STAGE.

"Discretionary use of the prescribed subjects of instruction.

"UPPER STAGE.

"In each summer term ten native and five foreign plants. In each winter term ten native and five foreign animals—with five minerals. At the close of the course, instruction about the human body.

"Hygiene

"Sketches of fruit culture according to the season. [Weissenburg is a fruit-growing district.]

REMARKS.

"The system of instruction is to be governed by the idea of making the subjects chosen for discussion representative of classes, orders, families, and species. Besides these representatives, animals and minerals, the children must become acquainted with many others."

"They must also learn to know the stages of development in plant life and conditions of life in general. The teacher is to hold strictly by the rule laid down in the Normal school plan—to make the subject itself the first and last principle of instruction." Without it, in this department, "no real information can be given."

In Cookery, the detailed syllabus is submitted by the teacher, and approved by the school authority charged with supervision of this department. In Handwork for boys, the arrangements are very different in different places. They seem, in Strassburg, to be left wholly to the teacher. Elsewhere, the Leipzig programme, as elaborated in Dr. Goette's Training College, is more or less closely adhered to. In Munich, where handwork is carried on by the private Society, already referred to, the "Münchener Volksbildungsgesellschaft," the programmes in the school workshops are arranged by the teachers, who submit them to the committee of the Society for approval, and the committee take care to have experts among their number who can advise upon the subject.

IX.

The question as to how far education in practical subjects is compulsory has been dealt with in previous sections of this Report in connection with each particular subject. In general it may be said that handwork for girls, drawing, and elementary science are compulsory nearly everywhere. Cookery and domestic management, &c., for girls are generally voluntary, but tending to become compulsory. Handwork for boys is always voluntary. The Continuation School is, or is tending to become, compulsory, and its education, though literary in form, is strongly coloured by practical aims.

X.

The systems of inspection which I have observed fall into two main divisions—Lay inspection and Clerical inspection. The latter is found in Württemberg and Bavaria (except in some of the large towns), and the former in Switzerland, Baden, the Netherlands, and such parts of Prussia as I have visited. Lay inspection is carried out as a special department of the general administration of the country through the machinery of Communes, Circles, and Districts. The Circle has an inspector appointed by Government, who visits the schools in his section once a year and sends in a full detailed report on a printed form to his superior authority. The inspector also arranges the programme for his Circle in accordance with the general "Lehrordnung," and takes a leading part in conferences and similar schemes for improving the cultivation and efficiency of the teachers. The precise methods, which he may use for trying the progress of the school are left very much to his own discretion. It is usual for him to ask the teacher to conduct a lesson in his presence.

The chief teacher (Hauptlehrer or Rektor) of a large school holds a kind of local inspectorship, and is more or less relieved from the work of actual teaching.

The teachers of needlework are usually subordinate in matters of discipline to the chief teacher of the school where they are employed. In the country their work is tested as best it may be by the Circle inspector. In towns of importance there is a skilled female inspector for this purpose, and efforts are being made to introduce female inspection of needlework in all schools.

In the Continuation Schools in towns, instruction in drawing is usually under the special supervision of an expert.

In Bavaria and Württemberg clerical inspection is established by law. The schools are mostly denominational, and the local alderman looks after the schools of his own confession. He receives no special salary for these duties, as they are supposed to be included in those of his office. His reports to a superior who holds the office of district inspector, and who is also an ecclesiastic, receiving no special pay. In Bavaria the control from this point upwards is vested in the State working through lay officers who can review the work of the clerical inspectors. In Württemberg the supreme educational authorities are the Catholic Ecclesiastical Council and the Evangelical Consistory for Catholic and Protestant schools respectively. It is provided, however, that these bodies must admit lay commissioners when educational questions come up for consideration, and that these questions must not be discussed at the ordinary sittings. Two lay commissioners sit with the Consistory and one with the Catholic Council.

The local inspectors can neither appoint nor dismiss teachers. In point of fact the dismissal of a teacher is a matter of very rare occurrence. They are State servants and hold their position for life, unless in cases of the gravest offences against duty, which are dealt with by the superior authorities. Seeing, however, that they are required to spend five years in training, and under close observation as to character and capacity, not to mention the period for which they may have to serve as probationary teachers, before receiving a definitive appointment, it will be understood that unfit persons have very little chance of enjoying the status of a regular teacher.

Teachers are usually "protested," if not appointed, by the Communes. The Circle Government confirms or vetoes.

It is right to add to the above statement that the system of clerical inspection in Württemberg does not seem likely to endure long in the present form. I am informed that a desire exists in many quarters, especially among the teachers, to introduce inspection by trained experts, i.e. by school men. The matter has come before the Land tag, and a Commission is now sitting to consider the question of altering the existing arrangements in the direction indicated.

In Bavaria the existing arrangement appears to work smoothly. Here lay inspection can be, and is, introduced, wherever "simultaneous" or unconfessional schools exist. As a rule, one finds in the towns Catholic, Protestant, and open schools existing side by side, all being alike State institutions. It is optional for parents to send their children to whichever they like. As the proportion of open schools appears to be increasing, the area of lay inspection is in this way, and within certain limits, gradually widening. In Nuremberg the open schools now outnumber the Catholic and Protestant put together. In these schools religious instruction is provided for in the same way as in our own Board schools. That clerical inspection must, however, remain the rule in Bavaria is provided by an article of the Constitution.

XI.

The system of training teachers in Germany would deserve a much closer investigation and more extensive treatment than the nature of our enquiry permits on the present occasion. The guiding principle is that the teacher who is to train the future nation ought himself to get a very excellent and exhaustive training, and this is provided for in institutions of which so far as my own observation goes, it is difficult to speak too highly. The course in the training colleges goes far beyond what a teacher will under ordinary circumstances be called upon to make direct use of. It is intended that he shall be capable of pointing out to pupils of exceptional capacity the way to higher culture, and to give to all his lessons that interest and thoroughness which are only within the reach of mind of highly-trained intelligence and wide information. It is intended also to

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open up to him parasite which may be invaluable to him in the isolation of a country village, so keenly and often so dangerously felt by a man in his position. For this object, as well as to enable him to perform small offices of utility in the school, a training in handicraft is frequently introduced.

The *Seminars*, or teachers' training colleges are State institutions. Entrance to them is by competitive examination, with certificate as to character and capacity. The course embraces five years—three in a "preparation school," and two in the Seminary proper, or vice versa. Pupils generally pay for their own meals, receiving lodging and instruction free. Meals cost about £10 a year. It very often happens, however, that the Communes send up pupils with a stipend to cover all expenses. There is a large and splendidly equipped Seminary in Strassburg, where I was informed by the Rektor that there was hardly a pupil on the books whose expenses were not paid for him. Sons of poor parents, or pupils who have distinguished themselves by special aptitude, may receive special allowances from the State. In the Seminary and Preparation School of Schwabach, Bavaria, with ninety pupils, I found that in 1895-6 over £125 had been paid by Government in allowances of this description.

The salary of the Director of an institution of this kind is usually about £300 a year, and of the teachers £120 to £150.

The range of subjects taught may be gathered from the appended programmes of various Seminars. It may be observed here that singing, the violin, and the organ are all obligatory subjects in every Seminary I have visited. Gymnastics and drawing are of course also obligatory. The demands of Seminary work are exacting. Pupils rise at 5 or 6 A.M. according to the season, and their time is fully occupied till 9 in the evening.

Every Seminary has a primary school for practice attached to it, and the greatest importance is attached to instruction in the methods of pedagogy.

Female teachers in needlework and cookery are usually trained in institutions maintained (with State aid) by voluntary organisations, such as the Baden Women's Association, a great organisation, with £50,000 of property, and over 200 centres of activity, or the Swabian Women's Association, a smaller but smaller body, or the Institution of *Fraulein Rüdiger* in Wiesbaden. There are also many private institutions for this and like *Victoria's Amstalt*, in Wiesbaden, which exact by the fees paid by pupils. All three institutions charge fees for instruction and pension. As an example, I may mention that 50s. is charged by the Swabian Women's Association for a course of six months for Elementary School teachers in needlework. If they live on the premises they pay 30s. a month pension. These payments are subject to the usual remissions and allowances as those mentioned in the case of male students. The course always includes pedagogy and general instruction in German, composition, history, &c.

Teachers in handwork for boys have usually been trained in the first instance at Leipzig, under Dr. Goetz. Afterwards teachers so trained have held courses for training others in their own districts. In the case of the Rhine Province Association for Handwork, where statistics are obtainable, I found that out of 33 teachers engaged in this work, 33 were trained at Leipzig, 51 at Cologne (by teachers originally trained at Leipzig), 5 at Bonn, and none more than 1 in any other place. Teachers attend these courses in their holiday time or in the evenings, and their expenses are usually paid by the Communes which mean to employ them.

Instruction in special subjects, mostly for Continuation School-work, can be obtained by teachers, after they have left the Seminary, in the various high schools and technical schools. Leave of absence

can easily be obtained for this purpose and substitutes are appointed if necessary. These substitutes are drawn from the "*unsoldatige Lehrer*," a grade of teachers appointed, as it were, on probation, and without having yet received a fixed position as State servants, who are largely employed in casual work of this kind. Teachers of this and occasionally even of the higher grade are required to go through special courses of instruction for their further education.

Among the means of carrying further the cultivation of the teachers after they have engaged in school-work, must be mentioned the reading Circles and Conferences on various subjects connected with education which are promoted by the authorities in the various Circles or Districts. Teachers who attend these conferences have their expenses paid by Government. They are obliged to take part in them in the manner indicated by the Inspector.

XII.

Teachers are generally paid at the rate of so much a year for each weekly hour of instruction, with appointment for a certain number of hours, usually twenty-eight. The State fixes a certain minimum salary, but the Communes can add to it, and frequently do so. There is certain competition for exceptionally capable teachers, or those who have had special training of some kind. In the country the Communes must provide house, garden, and fuel, or give allowances for these.

The minimum salary in the country districts of Württemberg begins (for *stagende* or definitely appointed teachers) at £41 3s. a year, and rises to £60. The right to a State pension begins after nine years' service, or in the event of incapacitation in the exercise of duty. It amounts to 40 per cent of salary, rising to the fortieth year of service by increments of 1½ per cent each year. There are also pensions for widows and orphans. Besides the above salary the teacher nearly always derives income from certain other sources. Thus he is generally clerk to the Commune (£5 to £25 a year), organist to the church (£5 to £20), and if he is married, his wife can generally be appointed teacher of needlework at £4 to £6 a year.

In *Elbe-Löhringen* (a place beside Württemberg an example of a very wealthy German province), the salary begins at £45 and rises to £80. This is also the usual rate in Bavaria.*

In the towns the salaries are very much higher about double the foregoing.

In Switzerland the rates of pay are higher than in Germany, at least in the wealthy Cantons. In *Schaffhausen* a teacher in the town receives £100 to £140 a year—in the country £50 to £75. In Zurich he gets £115 to £180 in towns as the minimum salary, but the addition paid by the Communes may bring the pay of an important post up to over £300. The country salaries are also proportionately higher.

Time given to handwork for boys, or Continuation School-work is paid at 70s. to 95s. a year per weekly hour, of course without the arrangement for a minimum of hours. For expert instruction in the Industrial Continuation Schools much higher pay may be given. Sometimes, however, teachers who are trying to promote handwork in their schools give their time for little or nothing.

In concluding this statement, I desire to express my sincere thanks to the foreign representatives of Great Britain, to the school authorities, and to the school teachers and others named in the accompanying diary, who have one and all facilitated my inquiries with the kindest cordiality and willingness. In this connection I would especially mention Mr. Victor Drumann, H.B.M. Minister Resident in Munich, Sir Charles Oppenheimer, British Consul in Frankfurt-am-Main, Hofrath Albert v. Kaula, British Consul in Stuttgart, Dr. Henking of Schaffhausen, Herr Oertli, of

* In Bavaria, however, there is little uniformity in the system usually in use. A teacher may be receiving payment from two different sources—the State, the Circle, the Commune, and private benefactors.

Zürich, Editor of the "*Schweizerische Blätter für Kindergartenarbeit*"; Dr. Julius Ward, Rektor of the Unter Realschule, Bâle, Herr Gruben, Secretary to the Education Department, Strasbourg; and Dr. Bruno Stehr, Oberschulrat for the District Unter Elsass; Dr. Weygandt and Dr. Waag, Oberschulräte of Baden; Dr. Gebhardtschaffel and Dr. Regerungsrat Wendel, of Stuttgart; Baron v. Landsmann,

Minister of Education, Bavaria; Dr. Glauring, Lokalschulkommission, Nürnberg; Professor Kamp, Frankfurt-am-Main; Herr Friedrich Bachbach, Ex-Director of the Art Industry School at Hanoü; Dr. Blumenberger, Education Department, Cologne; Frau v. Weismann, President of the Swabian Women's Association, Stuttgart.

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SUPPLEMENT TO THE FOREGOING REPORT.

DIARY OF MR. ROBERTSON'S WORK IN SOUTH GERMANY AND THE GERMAN-SPEAKING CANTONS OF SWITZERLAND.

SCHAFFHAUSEN.

Oct. 12, 1897.—I called upon Herr Hum, Oberlehrer at Neuhausen (Canton Schaffhausen, Switzerland), made inquiries and copied Time Table. The School is closed for a few days as vine harvesting is going on. The Primary Schools in each Canton are under Cantonal not Federal authority. The President of the School Board for Schaffhausen is Dr. Robert Grunbauer. The Secretary, Prof. Henking.

There is no manual work for boys in the Neuhausen School, and no instruction in agriculture or vine-culture. Gymnastics and drawing are compulsory—so is needlework for girls, to which four hours weekly are given. The materials are supplied by parents, or loaned from the Commune. Children always own the articles made, which are intended to be useful or ornamental for themselves or their household.

The school years are 4-14. A little time is given to elementary sciences (botany, physics). No "domestic management." Needlework is taught by female teachers appointed for that office only. Inspection is held once a year, and is conducted by means of an examination held by the school teacher with an Inspector in attendance.

Oct. 13.—I visited Schaffhausen, and saw Prof. Henking, Secretary to the School Board. He gave me the address of Herr Philipp Allenbach, Oberlehrer, Mühlebühl, who takes a leading part in the manual training movement in Schaffhausen.

This branch of instruction was introduced six years ago. It is quite optional. Instruction is given after school hours, 5-5. Pupils pay a fee of 5 fr. for woodwork, 3fr. to 4.50 fr. for cardboard, for the half year's course. The fees go to the general Communal education funds. About a quarter to half of the pupils who might do so take part in this instruction. Teachers are paid 2 fr. to 4 fr. for each lesson of two hours. They are paid, not by the School Board, but by a private association of teachers and others interested in the movement. Teachers are trained for this work by courses held at Bâle, Leuensee, &c., and receive a sum from the Canton, to enable them to take these courses, which they do in the summer holidays. It is quite optional on their part, but of course they have a better chance of good employment if they are able to teach Handwork. Cost of a course of training is 65 fr., and it lasts four weeks.

The Swiss Teachers' Association receives 250 fr. subscription from each member, larger but variable donations from private persons, and 1,000 fr. yearly from the Federal Government. Local branches are helped by the Communes in which they work.

I inquired as to teachers' salaries, and received the information given in my Report under that head.

Oct. 14.—I visited Herr Oberlehrer Allenbach, in Schaffhausen, received information about manual training, and saw specimens.

There are three systems for carrying on Manual Training in Primary Schools in Switzerland:—

- i. Obligatory, managed and paid by the Commune or Canton, or both, as in Geneva (nowhere in German Cantons).

- ii. Optional, supported by private contributions, but Commune or Canton engages to make up deficit, as in Zürich.

- iii. Optional, supported as above, but Commune or Canton gives a fixed sum, regardless of deficit, as in Schaffhausen.

Only wood carving and cardboard work are taught in Schaffhausen.

Besides the contribution of the Canton, the Commune (town) gives 400 fr. yearly. All articles made are property of the pupils. No fees beyond the 5 fr. already mentioned.

Cardboard work seems excellently adapted to train the eye, and form habits of looking ahead and planning out work in young children, but the material used is sometimes too thick and difficult to cut (for the ages taught), requiring as much strength as carpentry work, if not more.

The movement took its rise in 1884 with the foundation of a society among the Swiss Primary School teachers, who began by collecting a sum of 2,200fr. for tools, &c., and established one centre after another, with training centres in the larger towns.

MOERSBURG.

Oct. 15.—Started early in the morning for Constance, thence by steamer to Moersburg, in Baden territory, where there is an important seminary, beautifully situated on the shores of the lake. The Rektor, Dr. Wanner, showed me over it, and gave me full information about its working.

There are 196 pupils, 11 principal teachers (including the Rektor), and 5 assistant teachers.

The State contributions in aid of vocations or exceptionally distinguished pupils ("bedürftige und verdiente") came last year to 5,200 mk.

Instruction is free, with lodging, heating, light, &c., but pupils pay about 250mk. a year for their food. They manage this department among themselves.

Salaries are —For Rektor, 5,300 mk.; for teachers with University degree, up to 5,000 mk.; for others, up to 3,400 mk.

Manual work is taught in the form of cardboard work, woodcarving, and carpentry, with a little metal and wirework and a great deal of relief map making, of which I saw some beautiful and interesting specimens, showing the physical geography of the surrounding region. These are made by means of contour maps, three sheets (without names of places) being used to make one relief map. First the contour representing the greatest height is cut out on one sheet, this glued and placed in position on No. 2, and the next contour cut out, which is then transferred to No. 3, after which the fourth contour can be taken from No. 1, and so on. It is arranged that the thickness of each sheet represents ten metres in height. This seemed a very interesting and instructive occupation, and suitable for the higher classes in Primary Schools if proper maps could be published cheaply, as they easily might be.

The above subject is obligatory—other manual work is voluntary, but a certain pressure is put on all students to take it up. They are not expected to stifle it in teaching as there is very little of this

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kind of instruction in the Primary Schools in Baden, but it is introduced with a view to the educational value of the training in itself, and also to provide the future teachers with resources for spare time and means of adding to the comfort and ornament of their houses. They pay for materials.

Instruction in drawing, at which I watched a class at work, is very complete and thorough in its way, which is not at all an artistic way. Each pupil makes a number of geometrical figures in cardboard—cubes, pyramids, cylinders, &c.—and then uses them to draw from. Plaster casts and stuffed birds and animals are also used as copies.

Surveying is taught in connection with geometry. The schoolroom, school buildings, and surrounding country are carefully mapped.

Oct. 16.—I left Schaffhausen for Zurich.

Zurich.

Oct. 18.—I called upon Herr Oberlehrer Edmond Oertli, to whom I had been referred as an authority on Manual Training in Switzerland. He is editor of the "Swiss Journal of Handwork for Boys."

The arrangements here are much the same as at Schaffhausen in their main features. The teacher (who is always a regular school teacher, not an artisan) receives 100 fr. for the half-year's course (the instruction is usually confined to the winter half year) if he attends one day in the week—200 fr. for two days, and so on. The Commune pays this salary.

Handwork to a certain more or less limited extent is obligatory in the Swiss Seminars. Extensive courses are held by the society before mentioned, and teachers who attend them are aided both by the Cantons and by the Federal Government.

I visited the Seefeld School where Herr Oertli is in charge and found a well-equipped Kindergarten annex in the building. This is intended for children from four to six years of age, and attendance is voluntary but tolerably large—about 50 per cent. of those who are in a position to attend.

In Zurich, Handwork for boys begins with the fourth school year (ten years old) with cardboard work, and goes on to the sixth year. Pupils then choose what other section they will take up—woodcarving, ironwork, carpentry, &c. Sessions are formed and teachers appointed for each. I visited the three large workrooms—all fit and handsome or woodwork, one being used for ironwork too. The equipment is altogether paid by the Commune.

Oct. 19.—I called upon Dr Huber, Secretary to the School Board for Canton Zurich, and had a conversation with him on the subject of Handwork. He informed me that the proportion of boys receiving this instruction was as yet insignificant, so far as Zurich went. He considered that as a voluntary subject taught out of school hours and left in the hands of private organizations there was at least no objection to it, but he evidently believed it to be rather of the nature of a "fad," and was certainly opposed to the State taking it up and hardening the regular school code with it. "Teach boys reading, writing, arithmetic, a little science, and the history and general knowledge of their own country, and the State has amply fulfilled its duty to them."

Agriculture does not occur except in the (voluntary) Continuation School, nor does cookery, &c., as a State subject.

I called upon Dr. Stadler, President of the Seminary and High School for Girls, and from him and Herr Oertli received much information as to the training and appointment of teachers, and their rates of remuneration. The subjects have mostly been dealt with in Report, but I may describe here the peculiar method of appointing teachers in Canton Zurich. Each Commune has a School Committee

elected by the citizens. This Committee, when there is a vacancy, selects a name from the list of candidates and puts it to the vote of the whole body of citizens who are on the electoral list of the Commune. These generally, but not always, ratify the choice of the Committee. They are at liberty to choose any qualified person they please. Under this system local and personal influences often have undue weight—in the other hand it leads all citizens to take an interest in the affairs of the school, and to watch it. Appointments are made for six years, but are renewable, and a teacher is rarely dismissed except for extreme incapacity or misconduct.

Inspection is carried out by Inspectors appointed by the District Committee—representing a number of Communes grouped into a District. Only two expressions of judgment are used in the Report—a mark is given, 1 or 2. 1 is good, and may cover unusual excellence as well as mean average success—2 is bad. Neither has the slightest direct influence on the teacher's pay, though they may have on his prospects.

Female teachers go through four years in the Seminary—the same course as for males. They learn nothing of needlework in these Seminaries. Instruction in this subject is always given by specially trained teachers appointed for this alone.

Basle.

Oct. 20.—I called upon Dr. Zehntner, Secretary of Education for Canton Basle. He referred me to Dr. Julius Werdner, Rektor of the Untere Hochschule who was away on this day.

From the last yearly Report of the Education Department it appears that the local Society for the promotion of Manual Training numbers 282 members, and that there are 1,000 pupils and 34 teachers engaged in this work. The 1,000 pupils, however, include many who are not Primary School pupils.

Oct. 21.—I called upon Dr. Huber, Rektor of the Female Secondary School, Theaterstrasse, for information about female education.

The Female School is a handsome building with plenty of light and space, and an excellent gymnasium. I attended a gymnastic class, two sewing classes, and a cooking class.

Girls enter the "Secondary" School on attaining their tenth birthday and remain there till their fourteenth birthday. After that they are free, but they can if they like attend a Continuation School or a Women's Work School, in which free instruction is offered to them.

The programme of the Continuation School for girls is as follows:—

German (including all practical uses of the language)		4 hours weekly.
Arithmetic	3 "	
French	6 "	
Science and Hygiene	3 "	
Drawing	2 "	

In the Women's Work Schools Cookery and Domestic Management form the prominent features of the instruction. The subject is also taught to pupils in the Secondary Schools, and is optional. The instruction is quite free, the Canton paying for all equipment and materials. The teacher receives 800 fr. for four courses of three months each, attendance being twice weekly. The teacher has to see after all supplies as well as giving instruction.

This year there are 360 girls receiving instruction. I attended a class held in the Santa Clara School-house, and was much impressed with the excellent method of the instruction given. The Rektor inaugurated the course with a short and pithy address to the class. Full particulars of the arrangements are given in the Report, I, p. 2 and III.

In the gymnastic class I saw girls going with much alacrity and enjoyment through simple and graceful exercises with parallel bars, "giant slides," &c., and elementary drill. Girls begin gymnastics (obligatory) with their fifth school year and boys in their fourth.

In the sewing classes of different stages I found plain sewing, knitting, and cutting out to measure going on. Each pupil had a weighted cushion about 10 inches x 8 inches x $\frac{3}{4}$ inches on the desk before her to fasten her work to (an arrangement which I afterwards found to be universal in Germany, but which must tend to make it difficult in after life for a pupil to sew comfortably except at a desk or table). Advanced pupils learn a little embroidery and crochet. Materials are brought by the children if parents can afford it.

A blackboard with squares, each representing 15 cr., is used for instruction in cutting out. The work begins with the easiest class, and is carried right through. * Primary pupils do four hours weekly, and "Secondary" five. Two teachers are appointed to each class of 30.

SCHOOL GOVERNMENT IN BASEL.

The Governing Council (highest State authority) appoints an Educational Council, and the latter recommends to the former a School Committee for each school. This Committee recommends appointments to the Educational Council. Appointment is made for life or good behaviour.

"Inspectors" are called "Vorsteher" (superintendent) for Primary Schools, and "Rektoren" for Superior schools. They are appointed by the Governing Council on recommendation of the Educational Council, for terms of six years (renewable). There are no regular days of inspection, but the Inspectors look in at odd hours and make reports, as they deem necessary, to the School Committee.

With Dr. Werder I visited the workrooms where cardboard work and carpentry are carried on: well-lighted, airy rooms, all activity. Cardboard work, consisting in the cutting out and making of small boxes, trays, wall baskets, &c., begins in the eleventh year of age, carpentry in the twelfth. Bâle has the oldest handwork school in Switzerland (1881). The cost of teachers' salaries, materials, &c., for last year was 26,060 fr., of which the State (Canton) paid 15,000 fr., the balance being made up by the Teachers' Society for Handwork, the *Gemeinschaftlicher Verein*, and other private sources.

A teacher who gives 80 lessons (the usual number) in the winter half-year receives a honorarium of 500 fr. The squared blackboard was used in teaching boys to work to scale.

N.B.—Children in Switzerland are obliged to come neat and clean to school, otherwise they are sent home.

CONFIRMATION SCHOOLS IN SWITZERLAND.

From an official work (*Schweizerische Schulstatistik*, Vol. V., p. ix.), which has been kindly sent to me by the Federal Minister of Education, I take the following description of these schools:—"The main object of the Confirmation Schools is to attain the knowledge and the faculties which have been gained in the Primary School—to revive them, to develop them further, and to make them serve the ends of practical life." They form "a bridge between the Primary School and practical life," and they differ in character according to the nature of that life to which they are to form the instruction. They are declared obligatory in seven Cantons—Thurgau, Solothurn, Basleland, Solothurn, Aargau, Windt, Neuchâtel; and in three more, Bern, Appenzell A.R., St. Gallen, the Communes are permitted to make them obligatory if they choose. In others they are voluntary. In all they are liberally and increasingly supported both by Cantonal and

Federal funds, the latter being specially applied to the encouragement of drawing in connection with industrial teaching.

Since 1895 the Federal Government has also begun to subsidize Girls' Confirmation Schools for the teaching of cookery and household management, but these remain as yet voluntary.

STRASSBURG.

Oct. 23.—I called this morning on Oberschulrath Dr. Seidemann, who referred me to the office of the Bürgermeister for educational matters in the city and to Herr von Freiburg, Districts President, for country schools.

Herr Gruber, Superintendent of the Educational Department for the city of Strassburg, gave me much information, and sent me with his secretary to visit their schools of Handicrafts—the *Görberschule* (modelling in clay), *Grosse Spitzengasse Schule* (carpentry and turning), and the *St. Johann Schule* (joinery and ornamental woodwork).

Instruction in Strassburg is much more adapted to teach actual trades than elsewhere, and the instructors are mostly artisans who teach in the presence and under supervision of a school teacher. The hours are $1\frac{1}{2}$ at a time on two days in the week. A school teacher employed for 5 hours a week all the year round gets 640 mk. a year; if he happens to instruct in Handicrafts—200 mk. if he only supervises. The artisan teachers get 2 mk. per lesson.

Of pupils (1,200), who might join these courses, which are quite voluntary, about 300 do so. Instruction is given only to boys in the "Mittelschulen." These are schools which pupils may attend from the age of 12 to 15 instead of continuing the Primary School course till 14. In the "Mittelschulen" education has a practical turn, as in the Confirmation School. (It may be noted that the term "Mittelschule" has quite different meanings in different places.)

Other matters connected with these schools in Strassburg have been dealt with in the Report.

Oct. 25.—I called upon Herr von Freiburg, President of the District Unter Elsass, and on Dr. Henno Stille, Regierungsrath and Schulrath, and had much conversation with them on educational matters, particularly with reference to practical instruction. Dr. Stille informed me that a system of teaching elementary agriculture, vine-culture and fruit culture in the Primary Schools in districts where these industries were practised, was at present under consideration. He invited me to attend to-morrow a conference of school teachers on the subject of fruit culture, to be held at Niedersriedern. He gave me details relating to teachers' salaries and other sources of emolument (Report, XII).

The Reichland is divided into three Districts, Ober-Elsass, Unter-Elsass and Lothringen. Each has a President, who appoints all the ordinary teachers in his district. For the city schools, however, he takes the recommendations of the Bürgermeister. Each District has eight or ten Circles, and each Circle has an Inspector appointed by the President and reporting to him.

Reports and appointments in connection with manual training are an office of the city alone. Inspection in this department is informal—an official of the Bürgermeister visits the schools now and then, and notes if teachers keep time and appear to do their work satisfactorily.

I called upon Dr. Forster, Director of the Teachers' Seminary, 65 Schwarzwaldstrasse, and was by him shown over the place, which has been built and fitted up according to his plans. It is probably one of the largest and finest in Germany. The funds for building it were provided by the Province (Reichland).

The course is three years, with two years in a Preparatory School. Pupils pay 320 mk. (£16) yearly

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for food, lodging and instruction, but stipends from the State or the Communes cover the expenses of nearly every pupil.

I attended a lesson in Physiology. The subject was The Blood. The lesson began by one pupil after another standing up and delivering a short statement on some one function of the blood or the vessels which concern it. Then the teacher took up one point after another and carried the instruction further, illustrating his remarks by anatomical models of which he had a large supply, and asking occasional questions. Wherever possible a practical turn was given to the instruction. Thus, in dealing with the manner in which the blood conveys nourishment to the organs, the relative values of different foods were touched upon, and the principles of first aid to the wounded were explained in connection with the distinction between arterial and venous blood. I thought the lesson a model of clear exposition, with apt illustration, both the manner and the matter combined to make the instruction easily intelligible and easily recollected. The pupils had caught their teacher's manner and their answers were often striking in their concision and clearness. Every question was answered in full sentences and great attention had evidently been paid to expression.

I inquired of Dr. Fomter about Manual Training. He said they had nothing of it in this Seminary. "Our hours are five or half past five in the morning, till nine in the evening—and there is nothing in this period that we can remove to make room for Hand-work."

I then called on Herr Frass, Circle Inspector, and after conversation with him, visited the St. Johannschule and attended a lesson in drawing. Pupils were copying a large floral ornament or rosette. The copies are not supplied to them in books or on sheets—these are for the use of the teacher, who draws the copy on the blackboard before the children. Saw specimens of woodcarving—small plaques—complete articles are not made.

Science instruction here is very elementary—accompanied by pictures and simple experiments. Bopp's physical apparatus used.

In the afternoon I called at the Cookery School (Alte Akademie) and interviewed Fraulein Agnes Neuser, superintendent of the school. This is a department of a private institution, the National Women's Association for teaching cooking, domestic management, &c., to girls of the middle and working classes. The latter are taught for a nominal fee. The Association receives 600 marks yearly from the city, with premises free, and 400 marks from the Province. Girls of the better classes pay 150 marks for a quarter's course, comprising food, lodging and instruction. Residents in the town pay 70 marks. The city is just about to utilize this Association for teaching cooking as an obligatory subject in certain schools, beginning experimentally with a class of twenty-four. Arrangements as at Biele (Report, I, p. 28). No ordinary subject of school work will be encroached on to make room for cooking, because reading, arithmetic, and writing can be taught in connection with domestic economy, hygiene, accounts, and so forth.

In teaching needlework the materials are, in Strassburg, supplied free by the Commune. I am informed that for the past three years the average yearly number of pupils in this branch has been 5,638, and the average yearly expenditure on materials 4,404 marks.

Oct. 26.—I went by rail to Biele, thence drove to Niederroden (conference of teachers on fruit culture) and Rittershofen (school garden and instruction in fruit growing). The Conference was accompanied by an exhibition of fruit, and methods and appliances of cultivation, and an enthusiastic lecture on the subject was delivered by Dr. Stueffelhagen, Circle Inspector for Weissenburg. About sixty teachers attended. The exhibition was held in the principal inn, and there was a dinner at which short speeches were

delivered by Dr. Bruno Stöckle, Dr. Stueffelhagen and others. Though organized, presided over and paid for by the State, the Conference bore the air of a pleasant social gathering as well as a means of instruction.

There is a strong movement in this Circle (Weissenburg) for the teaching of fruit culture in the schools (see Report, introductory section), but it has not spread much beyond it, as far.

I saw a small plot of ground at Rittershofen, where a few young trees are planted and tended by the pupils of the Primary School. The instruction did not appear to me to be worth the time spent on it. When the State provides the parents with local facilities for instruction according to the newest and best ideas the children might, one thinks, safely be left to learn the subject in actual practice, and their school time be given to subjects which they are not likely to attend to otherwise. From the point of view of an object lesson, however, and as an adjunct to the science course, this class of practical instruction may have its merits.

KARLSRUHE.

Oct. 27, 28.—I left Strassburg for Karlsruhe and called on Dr. Weygandt and Dr. Albert Waag to whom I had been referred by the Baden Ministry, through Mr. George Buchanan, Chargé d'Affaires, and received much information from them relative to practical instruction in the Continuation and other schools. Continuation Schools are obligatory here for two years after leaving the ordinary school. Woodcarving is taught in them in the Black Forest District, where this is a local industry. The system always takes a form adapted to the needs of the locality. Girls attend Continuation Schools for one year, and here cooking and household management are introduced as regular subjects.

Handwork for boys in the Primary School is carried on in Karlsruhe and other towns, particularly Muenchen, but is always voluntary, a small fee being usually charged (2-4 marks a year). Teachers are the regular school teachers, mostly trained at Leipzig for these courses, but all teachers learn something of it at the Baden Seminars (see *supra*, Oct. 15, Muenchen).

Agriculture, &c., is nowhere specially taught, but is mediated through reading books, and in connection with elementary sciences—botany and zoology, &c. The teacher often has adjoining the schoolhouse, and always has a garden plot which he can use as an aid to his lessons in these subjects.

In the afternoon, accompanied by Dr. Waag, I visited classes at the three Primary Schools in Karlsruhe. At the "Karl Friedrich" School, Gasterstr., 22, I found a carpentry room with six double benches for twelve pupils, each with its wall case of tools—every tool numbered to indicate the bench to which it belongs. A class of "Mittelschule" was then being instructed. (In Baden "Hoch Schule" = University, and "Mittelschule," all between the old and the Primary School, including *Gewerlehre*, "Realschule," Higher Girls' School, &c.) Pupils here begin with cardboard in their tenth year—cannot take up carpentry till thirteen. There are no public Kindergarten Schools, and those that exist are mainly for the upper classes. Dr. W. strongly approves Kindergarten—makes the children "gewerkelt."

In Handwork, I learn that the Leipzig programme is followed in the main, but much is left to the discretion of the teacher. The whole subject is in a transition and experimental state.

Taking all Primary Schools together, of those pupils who could enter to the classes about 12 per cent. actually do so.

Patterns for woodcarving are obtained from the Vorstand der Schnitzkunst Schulen, Furtwangen, in Schwarzwald, others for combined carpentry and chip carving from Schmaroth and Troschel, Litzowstr., Berlin.

For cardboard work the carpenters' benches are used, with a board to protect the bench from the knife. Each of the three schools receives 400 mk. from the town for expenses of manual training for boys. In the Gartenfeld Schule, the Primary School pupils engaged in the various sections were as follows:—

Cutting	50
Carpentry	36
Cardboard	18

In the Leopold Schule—

Cutting	90
Carpentry	40
Cardboard	40

In the Karl Wilhelm Schule—

Cutting	34
Carpentry	39
Metal work	40

(Boys begin light metal work at ten)

Bent metal work looked a silly and useless affair—had as ornament, and with little or no general educational influence in it.

INSPECTION.

Dr Wang informs me that Baden is divided into twelve circles, each of which has an Inspector entitled "Kreisinspektor," appointed by the Superior Council of Education, and reporting to it. He must visit each school in his Circle about once in two years, and the Superior Council in charge of the Department visits about once in ten years.

COOKERY AND DOMESTIC MANAGEMENT

Oct. 28.—With Dr. Weygoldt I visited the cooking classes in the Leopoldschule and the Seminary for female teachers at the Baden Women's Association, Gartenstrasse.

Dr. Weygoldt is the organizer and introducer of the present system of practical education for women in Baden, which is considered to be far beyond any other German State in the completeness of its arrangements in this respect. The present system dates from 1891. It is worked entirely, or very largely, through the organization known as the Baden Women's Association, founded in 1887, under the patronage and active supervision of the Grand Duchess Luise, a Prussian Princess, who brought with her to Baden a very ample share of the Prussian talent for organization and management. It is now possessed of net property worth over a million marks, and it exercises various activities connected with women's work and benevolent and educational objects in hundreds of localities.

The characteristic feature of the Baden system is this—that every girl of the working classes, on leaving the Primary School at 14 years of age, must attend a Continuation School for one year, and then go through a course of cookery, together with all that belongs to the management of a household. Schools for this purpose exist in all towns of any size in Baden—not, perhaps, in isolated villages, but it may be said that the system is carried through universally where means admit of it. Attendance is four hours a week.

The arrangement and instruction at the Cookery Schools are of the usual type (Report I, p. 30).

At the Baden Women's Association I inquired as to the present relations of the State to the Seminary managed by this body, and found them to be somewhat intricate. The State grants 2,000 mk. a year to the Seminary, appoints teachers, arranges the programme in consultation with the Association, holds examinations, and gives certificates. It also pays the salaries of teachers on retiring. The Association manages the

details of the instruction, pays teachers, provides appliances, materials, &c. It charges tuition fees, and gets the proceeds to its general funds.

A course of instruction in cookery and domestic management lasts five months. The fees are, 250 mk. to foreigners; 200 mk. to Baden girls, food and lodging included. Two courses are held each year, and not more than 18 pupils admitted to each course. Pedagogy is carefully taught, as well as actual practice in cookery, &c. The staff engaged in this work are a head-mistress and a teacher of cookery. The former receives 1,100 to 1,200 mk. a year, with free lodging, food, light, washing, &c., and the cookery teacher receives 450 mk. with the same advantages.

Pupils come from all parts of Europe to this institution, whose certificates carry great weight. A pupil from Turkey had recently finished her course and qualified as a teacher.

The instruction, so far as one could judge from a single visit, appeared most thorough and scientific. I noticed that each article of diet was taken up and treated in a lesson, the substance of which the pupil had to reproduce in a short essay. There were essays, for instance, on Water, the Egg, Milk, Salt, and the various kinds of meat.

After seeing the Cookery School I was taken to the department where girls are trained to be teachers of needlework in the Primary Schools. The course here also lasts five months—the charges are 180 mk. plus 25 mk. for materials. Pupils must be eighteen years old and have good certificates from their schools. I was shown the whole range of work from the simplest knitting to initial embroidery ("Nähschulerei"). Much stress was laid on mending every kind of injury in every kind of material. A little drawn work was done. No machine sewing. Since 1891 this institution has trained 2,000 teachers, now operating mainly in various parts of Baden. Pupils have, besides needlework, to learn the usual school subjects, including drawing and singing, with, of course, "pedagogy." The teacher is to be an educated woman, not merely a sewer.

Other departments of the same institution contained sections for training teachers for the higher schools and in more advanced kinds of work—dressesmaking, coloured embroidery, machine work, &c.

REMARKS ON CONTINUATION SCHOOLS IN BADEN.

In every village there must be a Continuation School, attended by boys for two years after leaving the ordinary Primary Schools. The hours per week vary from two to ten. (This is less than in other States where the instruction in these schools is carried on only during a certain part of the year.) The hours must be day hours, and employers of labour have to accommodate themselves to the arrangement. Reading, writing, arithmetic, and drawing are the usual subjects, with singing, especially in the girls' schools. Girls attend for one year, and learn cooking, &c.

The place of the Continuation School may be taken by the "Industrial" Continuation School, of which there are sixty-two in Baden. In these the instruction is more specialized to suit certain localities and industries. There are also forty-four Industrial Schools. These are established at the will of the Communes, with or without State aid, and where they exist all lads who are going in for any trade, such as carpentry, plumbing, smithing, &c., must go for three years to this school. Factory hands and those employed in purely mechanical industries go to ordinary Continuation Schools. The hours in these Industrial Schools are eight per week, of which four are given to drawing. The hours are partly day, partly night.

Special schools, such as stone-plumbing or book-binding, are set up temporarily from time to time in places where they seem likely to be of use.

On the same day I visited the Gymnasium, Bismarckstr., and found a class being instructed in

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says:

cardboard work by Herr Meisner, a master at the school (trained at Leipsig, who appeared to develop the educational side of the work with great effect. Carpentry and carving are also taught here. Sixty-eight pupils out of 600 take part in it.

A double bench costs 24 mk. (very cheap).

A double case of tools costs 18 mk.

The tools comprise (for two pupils):—

5 Planes.	1 Awl.
4 Files.	1 Tannarrow.
1 Bit-and-Brace (there are twenty-four sets for common use).	1 Square.
4 Chisels.	1 Saw.
1 Pincers.	3 Clamps.
	1 Hammer.
	1 Marking Gauge.

PAY OF TEACHERS.

In Baden, in country schools, an assistant (probationary) Teacher receives:—

- (a.) 800 mk. a year before he has passed the qualifying examination for a regular appointment.

- (b.) 900 mk. after passing the examination.

A regularly appointed male Teacher receives 1,100 mk. to begin with, rising by increments of 100 mk. every five years to 2,000 mk. Female Teachers receive 1,100 to 1,500 mk.

Chief Teachers with appointments of some special nature may receive 100 to 200 mk. a year over the above.

All are required to give, if desired, thirty-two hours of instruction per week for the above salaries. Extra hours are paid at the rate of 50 mk. a year for each weekly hour except in the case of instruction in Gymnastics which is paid at 15 to 25 mk. a year per weekly hour.

These salaries are the minimums fixed by State (see Report, XII). In addition to these, the Communes must provide house and garden. In towns salaries are much higher, and are subject to local regulations.

As State servants teachers are entitled to pension for themselves and their widows and orphans, after ten years' service. This begins with 30 per cent of salary + value of house and garden (250 mk.), and rises to 75 per cent of salary. Thus, after forty years a teacher can retire with $\frac{3}{4}$ of 2,350 mk. = 1,763 mk., or a little over £38.

A widow receives the full salary of the deceased for three months. After that 30 per cent. of it. Children, if the mother is living, receive for the whole family $\frac{1}{10}$ th of whatever her pension may be; if she is not living, one child receives $\frac{1}{10}$ th of what her pension would be if she were alive—two children receive $\frac{1}{5}$ th, and if there are more than two each receives $\frac{1}{10}$ th.

STUTTGART.

Oct 29-30.—I left Karlsruhe for Württemberg. Called first on the British Consul, Hofrath Albert von Kautz, whose services in obtaining information and access were most valuable.

With him I visited the Handicraft School, held by Prof. H. Kraus, in the Logenkasernen. Prof. K. is Professor of Mathematics in the Gymnasium here. He started this school about eight years ago aided by a few schoolmen and manufacturers. It has recently received aid both from the State and the town—400 mk. each—with free premises from the former. The subjects taken up are, cardboard work, carpentry, chip-carving, and flat-carving, a little bent ironwork, inlaying, and a speciality in the form of articles made of cigar-box wood joined without nails, designs for which are published by Professor Kraus (Schreiben, in Esslingen). Pupils are admitted from fourteen to seventeen years of age—no Primary

School pupils in the strict sense. They pay 24 marks a year for use of tools, material, &c.; but the Committee allow free entry to sons of needy parents for whom it is desirable to obtain this class of instruction. The teachers are active working under Professor Kraus's supervision—an arrangement not, perhaps, so bad for the pupils of this school as it certainly is for the children in the Primary Schools.

There is no regular inspection—only occasional visits from the Minister of Education.

There are about seventy pupils.

I visited the Jakobsschule, at which cardboard and woodwork are also carried on, and learned that it is introduced at the Stöckelschule too. It is obligatory in the State Orphanage. At the Jakobsschule the hours are 10-12 on Wednesdays and Saturdays. I asked what subject was sacrificed to manual training, and learned that, of the four hours a week which were devoted to drawing, a pupil was permitted to drop two in favour of Handwork, if he chose. The teachers are school teachers, trained for this work at Leipsig. The work in some form or other is taken up by about 10 per cent of those who might do so.

Teachers had expenses paid for instruction at Leipsig, and get 385 marks a year for four hours a week. The city provides the materials free, and children keep articles made. The contribution of the city for this branch of instruction is 400 marks a year, and teachers' salaries.

Oct 31.—I called by appointment on Frau von Weissacher (wife of the Postmaster General), who is President of the Swabian Women's Association, a body which, with smaller means, and less of direct connection with the State, plays in Württemberg much the same part as the great Baden organization already referred to. It was founded 1873. After receiving some general information on women's work in Württemberg, I made an appointment to meet Frau v. W. and her colleagues on the Committee at the Society's Building, Reimsburgstr. 23, on Monday.

Nov 1.—I met Frau v. Weissacher at Reimsburgstr. 23, and was shown over all the departments of the Association. It covers nearly the whole field of women's work, as here understood, viz.—Kindergärten—Hand-sewing—Machine-sewing—Dressmaking in all its branches—Embroidery—Laundry—Cookery and Household Management. Its funds are derived from school fees, subscriptions of members (5 mk. a year), donations and legacies, and contributions from public funds. Last year the State gave 3,705 mk., and the Town 1,000 mk.

It has special courses for training teachers in needlework and cookery, and issues certificates which are accepted as satisfactory evidence of qualifications. These certificates, however, are issued not by the State, but by the Association, and the latter, not the State, holds the examinations on which they depend. The question of putting the Association in the same relation to the State as that held by the Baden Association has, however, been favourably discussed in the Landtag, and is not unlikely to be decided in the affirmative. Some influential members, however, doubt the advisability of making the connection with the State too intimate.

The Kindergärten is considered to be a model of its kind. It is arranged precisely on Froebel's principles: girls come here to be trained in the class of work, and to get positions as teachers or nursery governesses.

The school of needlework is under the superintendence of a woman of rare capacity and accomplishments, Fraulein Rie—former pupil of Friedrich Fiedrich at the Art-Industry School of Harnau. The characteristic feature of Frä. Rie's school is the manner in which drawing is taught in connection with work. Nothing more thorough and systematic could well be imagined. Even in the simplest forms of garments

(which are always made from individual measurements—no "normal" sizes) accurate scale drawings are made by the pupils and carried out like geometrical drawings with heavy, light, and coloured lines to indicate working lines, lines of measurement, and the area of the stuff. Finished garments are placed on stands and accurately drawn and shaded. Every pupil in this department must give at least four hours a week to drawing. *Frl. Riese* complains acutely of the difficulties created for her by the fact that drawing is not an obligatory or even a usual subject for girls in the country schools in Württemberg.

When artistic embroidery is reached, pupils learn to make correct coloured and shaded drawings of everything they work, and they have to compose their own designs for ornamental work, monograms, &c. Except in the most elementary stages no pattern is ever copied twice in the school. The system of copying an actual plant and then conventionalising it for ornament is carefully carried out. *Frl. Riese* considers that much more immediately effective work might be done by getting patterns from artists to be copied in the school, but she wishes to plant among the people themselves a seed of artistic culture which shall bear fruit in the next if not in this generation, and for this object she insists on carrying through the system of thorough training in drawing and original composition of all subjects to be worked. The forms used in the composition are of course largely taken from or suggested by well-known types of ornament, or from nature. In her grasp and application of the historical development and significance of ornament, it was easy to perceive traces of *Frl. Riese's* former pupilship under Fischbach.

The course for ordinary school teachers lasts three months, and the fee is 2½ marks for instruction only. This can be boarded on the premises for 55 marks a month. The instruction (apart from the stress laid on drawing) presents the usual features. A man's shirt is supposed to be the *clé d'œuvre* of the course. Particular attention is paid to mending and patching.

Drawing starts with geometry. Pupils learn this up to the construction of the pentagon, hexagon, octagon, and ellipse. The square is drawn *free hand*. Perspective is carefully taught, starting from geometrical methods.

In the Cookery School I found no artisan cookery taught—it is intended for the middle classes. The course for a teacher is one year, and the fee 240 marks for instruction alone. Little as yet appears to be done in Württemberg for the training of the working classes in this department. Even in the Girls' Continuation School practical subjects do not occur, or at least are not practically treated.

Oct. 29—*Dec. 2*.—I had several interviews with Dr. Gehlenhofstr. Billa (**Rektor* für Schulwesen vom Ministerium") and Dr. Regenerhaupt Wendel, who is in charge of the Industrial Continuation School system under the "Centralstelle" for Trade and Industry.

Dr. Billa informed me that Handwork for boys was only introduced (in Primary Schools) in Stuttgart, but it frequently formed part of the training of a teacher in the Seminars. (Circumstances such as these explain how it comes that school teachers can be turned out as handwork teachers by a six weeks' course at Leipzig. They have really learned the work before, and only go to Leipzig to become acquainted with the methods and programmes.) Needlework for girls was not made obligatory by the State, but it was open to the Communes to make it so, and they mostly did. There is no obligatory instruction in cookery, &c., but the State provides facilities for it for girls who have left the Primary School. There are some 300 schools of this character.

Kindergarten is nowhere a State subject.

Drawing is optional so far as State regulations go, but is very generally introduced, at least for boys, in towns of any size.

The Continuation School is compulsory for boys—eighty hours a year for two years.

I received information about the Württemberg system of inspection, and the changes contemplated, as described in Report, also that relating to teachers' salaries.

As regards the training of teachers, I found that there are four Protestant and two Catholic seminaries, with one (Protestant) seminary for female teachers, having a course of instruction for needlework teachers. The seminaries are under control of the Church authorities. Here, however, as elsewhere, provision is made for the continued instruction of teachers after they have left the seminary, and are engaged in school work. Special courses of instruction and conferences are the methods employed. Two conferences at least, which all definitive teachers must attend, are held every year, and there are two for probationary teachers. In connection with these conferences teachers must undertake the work appointed for them by their inspectors.

I visited the Municipal Industrial Continuation School, Thorstrasse 8. This is obligatory in Stuttgart, for all pupils belonging to the artisan classes, for which it exists. There are at present 1,676 pupils. The hours are ten per week for the first year, eight for the second, and the hours half day and half evening. Pupils are grouped according to their callings, so that there are many different courses. School fees of 5-15 marks are paid, but necessitous pupils have allowances made to them by the city.

Dec. 2.—This day I went by rail to Esslingen, a small manufacturing town about half an hour from Stuttgart. I visited there the Teachers' Seminary (Protestant), and called upon the local "Schulrat" (Inspector), Herr Schütz, who is in charge of the district between Esslingen and Cannstadt.

The course in the Seminary is three years—in the Preparation School attached two years. There were about seventy pupils in the former. Each is supposed to pay 120 to 180 marks as a fee for instruction, but, as a matter of fact, the State pays all these fees for them. They provide their own meals, but receive lodgings, &c., free. I found that Handwork was not introduced here, though I had been given to understand that it was nearly universal in the Württemberg seminaries. On the other hand, drawing is carried very far (so far as an industrial purpose was concerned). I was shown a room full of parts of machinery, with models illustrating geometrical and mechanical principles, and machine and building construction, all intended as objects for drawing, the teachers being evidently trained with an eye to the Industrial Continuation School. Abundant supply of physical and electrical apparatus. Little chemistry is taught. I am informed, however, that the Catholic seminaries pay more attention to this subject.

Teachers in this Seminary receive 300 to 4,500 marks per annum, of course with free lodging.

I learned from Herr Schütz much on the subject of the local Continuation Schools, which is incorporated in my general remarks on that subject. Of the pupils attending this school in Esslingen about 10 per cent. are agricultural, the rest industrial, and of the eighty hours instruction given during the year ten are devoted to agriculture. The Agricultural Society of Swabia gives a small contribution to the school to provide for agricultural instruction, which is quite theoretical—dealing with qualities and analyses of soils, instruction about injurious insects, exercises in competition connected with agriculture, and a little general botanical and mineralogical instruction. Of course, in ten hours a year nothing can be done beyond pointing the way to a student. Illustrations (published by Schwann, of Leipzig) are

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Daisy

much utilized. More attention is naturally paid to industries in Esslingen, and instruction is given about paper-making, wool and cotton spinning, electricity, dyeing, and particularly machine construction. (Esslingen is exporting locomotives to the Transvaal, yet it looks a very clean, quiet, rural little place, with vine-clad hills closely surrounding it).

MUNICH.

Nov. 3, 4.—I left Württemberg for Munich, and called on Mr. Victor Dammoud, H.B.M. Minister Resident, and on Baron v. Landmann, Minister of Education—also on the Burgemeister and local Inspectors, Herr Bohngen and Herr Kerscheneitner, and received general information and a list of places worth visiting in the city.

Nov. 5. —Visited the Primary Schools at Neuhausen, in the suburbs, and was shown over it by Herr Hauptlehrer Lapp. This very fine and commodious building has 2,000 pupils and 40 teachers, a splendid gymnasium, and the bathing arrangements described in Report I (d).

There is a Cookery School, with the usual arrangements. Classes are also held in Pilsenerstrasse 26. A Kindergarten section located in the school buildings, is maintained by a private society.

From Herr Lapp and others I learned that a peculiar arrangement exists in Bavarian towns, in the form of an optional extra class in the Primary Schools. Obligation begins with the 6th birthday and ends with the 15th—seven years, with one class to each year. Various choices then lie before the pupil. He (or she) can continue in the Primary School for an VIII. Class (one year), or go (in towns) into a Continuation School for three years (the usual practical ones) or (in country) into a Sunday School for three years—or, of course, into a special trade school, "Realschule" or Gymnasium. Class VIII. answers to two years of Continuation School—the hours being twenty-six a week as against eight.

The VIII. Class differs for boys and girls. For boys it has no special industrial character except that drawing, especially from models of machinery, building, &c., is much more attended to. In the case of girls however, a strongly practical character is given to Class VIII. They learn the cultivation of vegetables in a school garden, where circumstances permit, and both the theoretical and practical sides of cookery, food, nourishment &c. Needlework is also carried further in Class VIII.

About 50 per cent. of the girls affected by the regulation join Class VIII.

The Continuation School for boys has the character described in Report. Girls who join it learn theoretical matters connected with cookery and hygiene, &c., for the first two years, and in the third year (which is compulsory in towns, whether they join Class VIII. or not,) they take up the subject of bringing up of children.

In Munich five hours of Sunday are given to Continuation School work and three on week days. The Sunday hours are 8-11 and 2-4.

Primary School holidays are ten days at Christmas, fourteen at Easter, and about seven weeks in summer.

Cookery Schools and Continuation Schools are alike confined to the towns.

Drawing is obligatory, beginning with the 5th school year. I found here that freehand comes first, geometrical later. Tints are used in outlining figures—e.g., white rosettes on a pink ground, &c., but there is nothing of what we call "brushwork."

Science begins with the third school year, and embraces botany, zoology, physiology, including chemistry and electricity. Every school must have a certain minimum of apparatus for object lessons and experiment (Report I f.). There was a room set apart for storing appliances of instruction, with which this school was very richly provided. They embraced

minerals in great variety, skeletons of typical forms (lion, bear, reptile), stuffed animals and birds, anatomical models, optical, chemical, and electrical apparatus, natural history specimens in spirits (poisonous and harmless indigenous snakes), and other objects of interest (such as a pearl oyster, with pearl, entomological collection, and specimens, &c., representing various industrial processes—glass-making, aluminium, talc, &c.). I was particularly struck with beautifully mounted and arranged specimens showing the processes of textile manufacture, from the raw material onwards. There were collections referring to flax, wool, silk, and cotton. These are the work of Theresa Dreidax (a Munich school teacher), and are published by Richard and Co., Bonheim, at the moderate price of 10s. 6d. to 12s. 6d. per set.

Needlework for girls is, as usual, obligatory from the first year onward. Girls bring their own material. They learn the cutting-out of all underlinings and bed-linen, and draw the patterns carefully to scale.

Handwork for boys is carried on by the Munich Society for Popular Education, through school teachers trained at Leipzig, or subsequently here through these.

The Hauptlehrer in each school is a sort of local inspector, and reports each year to the local School Commission (see Report X.). He is nominally under the local education authority to which the school belongs, but in the towns clerical inspection does not appear to take much practical effect, partly, I believe, because these people are usually too busy to undertake important and exacting work without pay.

Nov. 6.—I visited this day the Cooking School in Pilsenerstrasse, attended by Class VIII. of the Munich City Schools. There were four stoves, six girls to each, and everything was a picture of neatness, order, and activity. I saw egg soup (Bouillon mit Ei) prepared, the soup being, as usual, the water in which beef was boiled, the beef being afterwards brought up as a meat course. A lecture, interspersed with questions, was delivered at a fitting opportunity on the food value of the dishes in preparation, and the chemistry of nutrition. Attention was paid to hygiene—veins being made of Dr. V. Pettenkofer and Dr. V. Von, eminent Munich men of science, who had freed the city from dangerous epidemics.

In the Girls' Continuation Schools where there is no practical cookery at present, but its introduction is considered to be only a matter of a short time.

The cookery instruction is given free of payment. I learn that the cost of materials in this school for one year (instruction Wednesdays and Saturdays) is only 430 marks.

After this I visited the school workshops on the Kehlstrasse, and was conducted over them by Herr Lehrer Kerscheneitner.

These workshops are established and maintained by the Munich Society for Popular Education, of which the Burgemeister, Dr. Brunnner, is President. The Society is aided both by the State and the town. It receives free premises, about 13,300 marks yearly from public funds, and 7,000 marks from members' subscriptions and donations. It also receives occasional special contributions from the city—where a metal workshop for eighteen pupils was lately fitted up at a cost of 1,200 marks, and 650 marks was given towards establishing a school of cookery (not for Primary School pupils). For boys this Society maintains eleven courses of work at present—two candle-blowing, three wood-carving, four carpentry, and two metal work (hammered iron).

Pupils pay a fee of 2 marks a month for instruction and material. They begin at 13 years of age. Poorer children can be taken for less than the usual fee, or for nothing, but the whole subject of fees is under revision, and an understanding with the city authorities is hoped for by which they may be largely reduced. There are about 180 pupils at present, and many more applications than there is room for.

I saw cardboard and carpentry work going on and (as the Realschule Schale) metal work. The latter began with twisted wire work.

Everything is carefully drawn to scale by pupils before commencing work. They learn as soon as possible to make simple objects (according to the Strassburg methods). Teachers are always trained school teachers. They are paid by the Society, and receive 25 marks a year for each weekly hour.

Nov. 8.—I called, at the suggestion of Mr. Victor Drummond, on Professor Otto May, General Secretary of the Agricultural Society of Bavaria, and made some inquiries with reference to Agricultural Continuation Schools.

Afterwards visited the Seminary for Female Teachers and saw the Director Dr. Joseph Hogenmooser.

This is an institution for training female teachers for Elementary Schools. There are 150 pupils. Connected with it are a Preparation School and a Primary School, with 180 children. The Preparation course is three years, the Seminary two. Table of subjects and hours appended. The training is much the same as that of male teachers, except that pupils learn needlework—it being usual in parts of Bavaria for female teachers of ordinary subjects to teach needlework too. In drawing attention is paid to connecting this subject with needlework, cutting out, embroidery, &c., by means of appropriate examples.

Pupils do not live on the premises, but with certain families in the town, and are under supervision of the Director. Pupils pay fees of 5 marks a month, both for the Preparation School and the Seminary, but the Landesh (say District Council) of Upper Bavaria grants a sum of 3,000 marks yearly to provide stipends for the necessitous and the deserving.

Entrance is by examination with good certificates from the Primary School. There are many more candidates than vacancies.

There are in all 15 Seminaries for Teachers in Bavaria, an important one being at Schwabach, near Nuremberg.

In the afternoon I went to Nymphenburg, a place marked on a Bavarian School Map which I had seen at the Ministry as having an "Elementary School with Agricultural Continuation School." I called on Herr Lutz, Hauptlehrer, and was shown over the School.

There are 166 pupils (boys) and two teachers (usually three, one is about to be appointed). Drawing has been made obligatory by the Commune from the fifth year on. It is necessary so in all schools with four teachers or more.

There was an excellent collection of appliances of instruction, as at Neuchâten, including many mechanical models, showing machine and building construction. These would be largely for use in the Continuation School.

Herr Lutz is in charge of the latter, and the information he gave me about it is important. It used to be an "Agricultural" Continuation School (as marked on the Educational Map at the Ministry) when Nymphenburg was a mainly agricultural locality. Now Nymphenburg has become industrial, and accordingly the Continuation School has become industrial, too, in the sense described in dealing with this subject in my Report.

Girls have no Continuation School here, only the Sunday and Holiday School, which is devoted to continuing the instruction given in the Primary School. Needlework is dropped in the Sunday and Holiday School.

Further information obtained on the subject of fruit culture, inspection, and other matters will be found in Report.

Nov. 9.—I called again on Dr. Otto May, and had a long conversation with him on the Continuation School system. The general tenor of the information obtained has been already given—but from my notes

I may reproduce the following remark of Dr. May's:—"In town, the Continuation School tends more and more to become the working man's substitute for the Realschule."

From official statistics it appears that the "so-called" Agricultural Continuation Schools (Dr. May's phrase, because they have only theoretic instruction), are decreasing in number. The following figures may be quoted:—

AGRICULTURAL CONTINUATION SCHOOLS

—	1885-6.	1894-5 (last figures available).
No. of Schools, . . .	397	437
" Pupils, . . .	11,559	8,588
" Teachers, . . .	955	737
Total expenditure, . . .	Mk. 128,617	Mk. 172,644
Of which, for salaries, . . .	" 102,251	" 91,302

Expenditure has thus greatly increased, while the number of schools and of pupils has largely diminished. It is stated by Dr. May that the reorganisation of the Agricultural Continuation Schools is under consideration.

The position of affairs as regards the Agricultural Continuation Schools may be compared with the

INDUSTRIAL CONTINUATION SCHOOLS

—	1885-6	1894-5.
No. of Schools, . . .	564	336
" Pupils, . . .	25,645	31,696
" Teachers, . . .	1,590	1,672
Total expenditure, . . .	Mk. 978,839	Mk. 520,578
Of which, for salaries, . . .	" 316,000	" 478,865

Nov. 10.—I visited the "Lehrmittel-Magazin" or permanent exhibition of school appliances maintained by the Upper Bavarian Circle Government (Kreisregierung), in the Schrammsteinen, Blumenstrasse. It is richly provided with specimens of every sort of apparatus and appliance intended for school use, all well arranged, with a manager in charge who can give any information required. Articles are not sold from this exhibition, but can be obtained from a depot elsewhere. There is a printed catalogue, but as new articles continually come in it is not complete.

NÜRNBERG.

Nov. 10.—I called on arrival on the Bürgermeister, Dr. von Schuch, who was absent on business. I then called on Dr. Glumard, Referent of the local School Board, who was most obliging in giving and procuring me information. I found him at the moment engaged in studying Dr. Von Schenkendorff's recent lecture on the "Experimental Introduction of Manual Training in Certain Schools."

There is little of this training in Nuremberg at present. It is confined (so far as Primary School pupils go) to a small class held by a lady, Franklin Kuhl, as Karleir. 17, which I inspected. She carries out the Biedt system, with the preparatory stages as arranged by Eva Mothes, of Gumburg, and chip carving. The undertaking is purely a private one—the city helps her only by paying the charges (Zink

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II.
The Ballmann
Story.

a month for two hours a week) for six pupils. Fredrik Kahl studied in Sweden, at Näs. She has at present about forty pupils.

Cardboard and carpentry are introduced in the City Orphanage.

Cookery and domestic management courses for Class VIII. are carried on here as at Munich. There are eighty-four pupils at present.

Nov. 11.—With Dr. Glaninger I visited the Max Thor Schule, and heard lessons in natural history and science delivered to three classes (VII.), and another in history. The natural history subject was "The Leech." The colour, shape, habit, uses, and place in the animal kingdom of this creature were all gone into in a series of questions and explanations, accompanied by a picture. After each point had been dealt with some boy was called on to make a concise recapitulation of all the information so far brought out. Attention was paid to getting answers in complete sentences. In physics the subjects were in one class acoustics, in another I was asked to name a subject, and gave the Solar system. I took down the whole lessons in my note-book, and may give a few questions, with the substance of the answers as finally dictated and approved of.

Physics.

Q.—What is sound? A.—What one perceives with the ears, through the medium of vibrations. What kinds of sound are there?—Noise, reports ("knall"), tones.

What produces a report?—A large number of very short vibrations.

A tone?—Irregular vibrations.

A tone?—Regular vibrations.

What makes tones higher or lower?—They are higher when the vibrations follow each other more quickly, lower when the vibrations are slower.

I here asked "How do the vibrations reach us?" and was (ultimately) told "Through vibrations in the air." The lesson proceeded to deal with the organs of speech. No experiments were used, but the nature of the vibrations was explained (after my question) by the analogy of a stone thrown into water.

In dealing with the Solar system the lesson started with the earth, its shape, movement, &c., and the causes of day and night and the seasons. Boys drew figures on the blackboard to show that they knew the difference between a circle and an ellipse. The angle of inclination of the axis of the earth was correctly stated. I asked a boy to draw the figure of the earth on the blackboard, and make a stroke through it showing approximately what the inclination of the axis was. He did it correctly. I then asked him to show the position of the sun when it is summer in Germany—this he did wrongly, placing the sun for the Antipodes summer.

The answers were generally well expressed and accurate, but it was hard to say how much of these subjects was really understood, and how much had been learned by rote. It is evident that for this class of instruction a teacher requires special gifts of exposition.

This school, like other large town schools, has a very fine gymnasium. The bathing arrangements described in Report are carried out.

In Nürnberg the Confirmation School lasts only two years—Class VIII. answering to one of them. The hours are six per week, nearly always on week-days only. Two hours each are allotted to German, arithmetic and mathematics, and drawing.

Afterwards I visited the Teachers' Seminary at Schwanbach, about forty-five minutes by rail from Nürnberg. No handicraft is taught. Instruction is

free, but pupils pay for their food about 11d. a day. Table of subjects and hours is handed in. In the afternoon I left for Frankfurt am-Main.

FRANKFURT-AM-MAIN

Nov. 12.—I called upon Sir Charles Oppenheimer, British Consul, and through him and Mr. Charles Schwarz, Secretary to the Consulate, received valuable information and introductions.

I found that handwork for boys is, as usual, carried on by a private organization aided by the city. There is a school for cardboard work, wood-carving, wire-work, and carpentry, in Wessendammstr. (Bekker Chum), with about 250 pupils.

There is also a Needlework and Cookery School carried on under direction of Professor Kamp, under the Society for Instruction in Household Management, in Grosse Sandgasse 12. This is attended by girls who have left the Primary Schools, and who in Bavaria or Württemberg or in Baden towns would mostly be attending Confirmation Schools. These are not obligatory, but will doubtless become so. "We are," said Professor Kamp, "the advance guard of the Obligatory Confirmation School."

The Cookery School is conducted on somewhat unusual principles. All theoretical instruction about food values, chemistry of nutrition, &c., is excluded, as Professor Kamp considers that it only teaches pupils and teachers nothing that they can understand and remember. They are simply taught by actual practice the art of cookery, &c., they will need in their own homes. He prepares them to be capable women and mistresses of households, and contrasts with his aims those of the "Frauenbildungsverein" of 14, Hechtstrasse, which prepares girls for wage-earning occupations, as cooks, waitresses, and so forth. It appeared to me that, successful as Dr. Kamp's methods doubtless are, he underestimates the capacity of the pupils for taking in and being interested in theoretical instruction. Professor Kamp has thirty pupils in his School at present. It receives 1,000 marks yearly from the State, and 2,000 from the city, with other contributions from educational organizations. There are 349 members paying subscriptions which amount to 2,148 marks. Pupils pay 1 mark a month, with 10 pf. a day for the dinner which they cook (and which costaneously twice that).

In the evening I visited the Industrial Confirmation School, and was shown over the place by the Director, Dr. Beck, and saw several classes at work. Drawing was going on in a number of different groups, the character of the instruction being regulated according to the calling of those who took part in it. Thus, in the group of upholsterers studies of curtains and drapery were being made in various modes of hanging and folding, each drawing being accompanied by a plan showing the area of the stuff used. There are separate groups in drawing for—

Masons and Carpenters,
Stonecutters,
Cabinet-makers and Latheworkers,
Glassmakers,
Mechanics and Opticians,
Watchmakers,
Engineers (Machinists and Boiler-makers),
Locksmiths and Tinsmiths,
Lithographers,
Engravers,
Upholsterers.

The School has 1,450 pupils, receives 10,000 marks a year in school fees, 16,000 marks from the State, and 44,000 from the city—total cost of maintenance, 90,000 marks. Attendance is voluntary, but masters are obliged to let their apprentices attend the School if they will. The thoroughness of the instruction, and rich provision of appliances of every kind were very striking.

Nov. 13.—I went to Wiesbaden, and after calling on Herr Friedrich Flachbach, ex-Director of the Art Industry School at Hana, and some conversation with him on art teaching in the Primary Schools, &c. I visited the institution of *Freuden Ridder, Adolphstrasse*. This is one of the three institutions in South Germany, celebrated for the training of women in domestic management, the others being those already described at Karlsruhe and Stuttgart. The Wiesbaden Institution (Industrie, Kunstgewerbe, and Haushaltungsschule), has the patronage and active support of the Emperor Frederick, and receives 1,550 marks a year from the State. It affords a very thorough course of needlework, from the simplest to the highest grades, and trains Elementary School teachers in this branch, but in the household department it deals in a superior class of cookery, &c., and is patronised mostly by young ladies. The course for teachers of needlework lasts seven months, and the fees are 140 marks, pupils paying for material. Pupils are also taken for teacherships in cookery, though there were none at the time of my visit. The course for these is six months, and embraces "cooking, theoretical and practical, science of nourishment, chemistry of the kitchen, sewing, mending, pedagogy." Fees, 240 marks.

COLOGNE.

Nov. 14, 15, 16.—I left Frankfurt for Cologne on the 14th, and next morning called on Stadtschulrat Dr. Himmelsberg, at the Rath Haus. He has had the institution and direction of the Cookery Schools in Cologne, which were introduced two years ago. (See Report, introductory section). This class of instruction is carried out very comprehensively here by private societies, and the large factories, especially by the great sweetened factory of the *Bees Staffwerk*, who have established very successful cooking classes for the families of their operatives. The city maintains at present two schools (one just opened), and gives subvention to a Jewish one. I visited (Nov. 16), one of the schools (*Georgplatz*), found the usual arrangements—only there were three double stoves in this case, eight girls in

each. The total under instruction is 288. Instruction is free and obligatory within the limits selected. Compulsion, however, is not the word in this case, as children are only too glad to be allowed to come.

I visited a school (*Burgmannstrasse*), for "Educational Handwork for Boys," founded ten years ago by a local Teachers' Society, and affording instruction in cardboard work, wood-carving, and carpentry. The city gives premises and 1,000 marks yearly. The District Government gives 500 to 600 marks. The Society had no surplus of this kind to start with. It has 300 boys under instruction, who pay fees of 30 pf. (say 4d) a month.

Besides this school, handwork is practised in the city orphanage, and various "Kinderkorte," and other institutions which are extremely supported by private means—the city gives premises to the "Kinderkorte." In addition to yearly payments, the city gives occasional sums for equipment as required.

Herr Wittke showed me an evening class of teachers at work in training for employment as handwork teachers. Herr W. is Treasurer of the Rhine Province Teachers' Society for the promotion of Handwork, and showed me some important MS. statistics which he has collected on the subject. From these it appears that in the five Rhine Province Districts, Köln, Trer, Aachen, Coblenz, Düsseldorf, there are forty-seven Communes in which instruction in handwork is given. There are eighty-four courses in progress for cardboard work, forty-six for carving, and twenty-two for carpentry. The total number of Primary School pupils is 1,718, with 265 pupils of higher schools. There are eighty-three regular school teachers employed, and eight artisans. The pay of the teachers is very varied, not rarely they give their services for little or nothing. The arrangements for fees are also very varied. Fees of some kind, from nominal sums to 18 marks a year are paid in forty-two places. The total spent on this instruction by the forty-seven Communes is not at present precisely ascertained, but may be taken as about 10,750 marks.—On Nov. 16 I left Cologne for England.

T. W. ROLLISTON.

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Mr. Rolliston's
Diary.

III.

JOINT REPORT ON Manual and Practical Instruction in Primary Schools in FRANCE

By MR. A. N. BONAPARTE-WYER, M.A., and MR. E. J. HUGHES-DOWLING, B.A.

I.—GENERAL SKETCH

Three Divisions of Public Education.

In a country where the functions of Government are so highly developed and enter so largely into the life of every citizen, whether he be rich or poor, we are not surprised to find that the Minister of Public Instruction controls not merely the education of the poor who cannot help themselves, but also that of the middle and richer classes. The whole system of education in France, from the highest University degree downwards through the whole range of the educational ladder, is under the direction of the State, and for purposes of administration is arranged in three well-marked divisions. These are:—

(1). *Superior or higher education*, which includes the direction of the Universities, with their various faculties of arts, medicine, science, theology, &c., &c.

(2). *Secondary education*, comprising High or intermediate schools and other schools for the well-to-do classes, including the *Lycees* in the

principal towns, and the *Collèges* in the smaller centres, as well as the Training College at Clugny for secondary teachers.

(3). *Primary*, including elementary and advanced schools for the poorer classes.

It is with this last division alone that our inquiries are concerned.

Kind of Primary Schools

Among Primary schools we find the following kinds:—

- (1). Infant schools (*Écoles maternelles*).
- (2). Elementary schools:—
 - (a). Ordinary;
 - (b). With complementary standard.
- (3). Higher Primary schools.
- (4). Professional or Technical schools.

Private Schools

As a law, passed in 1886, prohibits members of the various religious orders from becoming teachers of State schools, the fact must not be lost sight of that

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a certain proportion of the children of France receive their education in the private institutions conducted by the various Roman Catholic orders of brothers and nuns. The last statistics available (1895) tend to show that rather more than one-fifth of the Primary school pupils of France attend private schools. The conditions of our inquiry have not made it possible for us to investigate manual and practical instruction in private institutions to any appreciable extent. It would appear, however, that in general the private schools follow rather closely the programme of the State schools, and have not, for various reasons, taken any very striking part in the development of manual training that has been spreading over Europe during the past few years. An honourable exception must be made, however, in the case of the important Technical School of St. Nicholas, Rue de Valenciennes, Paris, conducted by the De la Salle Brothers, where for many years (since 1859) a complete training at twelve trades has been given to lads from thirteen to seventeen years of age in splendidly equipped workshops.

(1). *Infant Schools.*

The Infant schools were established in their present form in 1881. Before that time they were called *Salles d'asile* (Refuges), and were founded for the benefit of the parents rather than that of the children—the object being to provide a place where parents obliged to work all day could leave children of tender age in safe hands. Naturally it became necessary for the guardians of the children to find something with which to occupy their little hands and brains, and this necessity engendered a regulated system of school exercises and occupations. Children are received into these schools from the age of two years upwards to seven years, when they must leave to join the elementary school. In some cases, however, there is an infants' class (*classe enfantine*) attached to these schools, or to elementary schools, which keeps children another year, until they are fit to enter the *Elementary Standard* of the primary school. These schools are always under certificated female teachers, and are not as a rule found in country districts or away from populous centres. A great many of them are in connection with Convents, and the proportion of private to public infant schools is greater than in the case of ordinary elementary schools. Some accounts of the methods of teaching appears further on under the head of kindergarten.

(2). *Elementary Schools.—(a) Ordinary*

The ordinary elementary schools receive children from the age of six to thirteen, and are usually confined to one sex, except in sparsely populated districts where children are few. Every commune (civil division of a county, administered by a mayor, and rather smaller than our parish) is, as a rule, obliged by law to support an elementary school; if the population exceeds 500 there should be both a boys' and girls' school. The number of mixed schools is rather large, being about one-fourth of the whole number. Schools with a single teacher are also very common; no less than 48,000 State schools out of some 68,000 were in this position at the end of 1895.

The ordinary elementary school is normally divided into three courses or standards, viz. :—

- (1). *Elementary* (average age of pupils, seven to nine years).
- (2). *Intermediate* (average age, nine to eleven).
- (3). *Higher* (average age, eleven to thirteen).

In rural schools it is rather the exception to find any pupils in the Higher standard, as the laws on compulsory attendance do not require pupils to remain after passing the examination for the Certificate of Primary Studies, which is held on the programme of the *Intermédiaire* standard. Indeed it may safely be

asserted, that in schools with only one or two teachers the pupils that have passed the *Intermédiaire* standard do not seriously attack the programme of the Higher standard. The main energies of the master are directed to getting his pupils through their Certificate of Primary Studies, and his other scholars go through a revision of the *Intermédiaire* standard rather than attempt to follow the Higher programme. Very likely this course is as advantageous to them as any other. Even at the school of the Rue Tournaï (where manual training is best developed in Paris) the Director told us that 75 per cent. of his pupils left before reaching the Higher standard. Due notice of this fact should be taken when forming any opinion from a study of the programme of the Higher Standard. Generally, where there is no infant school near at hand, we usually find a *Préparatoire* Standard for children under seven years of age.

(5).—*Schools with Complementary Standard.*

In most of the principal towns of France, there are Elementary Schools which include a more advanced class for senior pupils. This class, which is taught by a master with a special salary, is called the *Complementary Standard*, and pupils are not admitted to it unless they have obtained the Certificate of Primary Studies. The programme is an extension of that of the Higher Standard, with the addition of some fresh branches, and pupils stay in this class one or two years between the ages of twelve and fifteen. The number of these schools in each department varies a good deal. In Paris there are about twenty for boys and thirty for girls, one or two to each *arrondissement* (or ward), while in some departments there are none at all, and in others only three or four each. The number of schools with a *Complementary Standard* is approximately (it is impossible to get the exact figures) 390 for boys and 160 for girls. It is important to note the number of these schools, for (as will appear further on), these are almost the only elementary schools (outside Paris) where the obligatory subject of Manual Training (according to the Laws of 1882 and 1887) is not a dead letter.

(3). *Higher Primary Schools.*

These institutions are found, as a rule, only in large towns, and are intended to give higher commercial and industrial instruction to pupils of elementary schools. In general they take pupils over twelve years of age that have obtained the Certificate of Primary Studies. In some cases they have accommodation for boarders as well as day-pupils, and in all cases the education given is free. In Paris the pupils are admitted by competitive examination, as the number that desire to enter is far greater than the accommodation admits of. The programme of studies, of which the duration is limited to four years, corresponds to that of the *Complementary Standard* of Elementary Schools, but is, of course, much developed in accordance with the greater facilities for study available in Higher Primary Schools. These schools have usually three sections:—(1.) *General Section*; (2.) *Commercial Section*; and (3.) *Industrial Section*, with a course of studies suitable for each section. At the end of the course, pupils may go up for examinations for entrance to higher Technical Schools, or for the Civil Service, or for the Training Colleges, or pass the special examination appointed for these schools, which gives the "Certificate of Higher Primary Studies." There are in France 202 of these schools for boys, and 77 for girls. All these for boys are furnished with a workshop for manual work in wood and metal. As far as we saw, the style of instruction in these subjects is of a more or less technical nature. Of course the age of the pupils determines to a great extent the tendency towards apprenticeship apparent in the manual work.

(4.) Technical Schools.

Besides the classes of primary schools enumerated above, there are at Paris, and other important centres, technical schools which teach the rudiments and practice of the leading industrial occupations. There are about sixteen male and eight female schools of this kind in France. At Paris and St. Etienne (Loire) are found the majority of these; others are at Arras (Nord), Vaux (Seine), and Moulins (Allier). There are also more advanced professional schools, such as the well-known Arts and Trades School at Châlons, besides various agricultural colleges which are not under the direction of the Ministry of Public Education. We did not consider it within our province to inquire into the working of these schools very particularly. Mr. Hughes-Dewling visited that of Vaux and one at Grénohle.

Hours of Instruction.—Continue.

The elementary schools of France are open for instruction five days in the week, and six hours a day. As in England, there are two school attendances each day; the morning attendance is from 8 or 8.30 until 11 or 11.30; the afternoon generally from 1 to 4. During the mid-day interval the pupils may go home for lunch, or eat at the school any provisions they may have brought with them. In many cases the local authorities supply a kind of meat and vegetable soup, or Irish stew, to the children; those who are able pay two or three halfpence, the poorer get their portion free. We assisted at the distribution of this soup at the Salomon School, in the Rue Tournairet, Paris. At 11.30 the classes were marched up to the kitchen (cantine) in order, and each received a paper plate with the soup, meat, and vegetables. The meal is cooked in a large cauldron, and we were informed that the cost is about 12½ centimes (1½d.) a head. The children then retire and eat their portion in the courtyard or schoolroom, under supervision. The expense of this meal is borne chiefly by the School Fund (*Caisse des Ecoles*), collected from voluntary subscriptions as a rule, with occasional contributions from the Municipal Council.

Arrangement of School day.—Punctuality of Morning Attendance.

The class rolls are marked twice daily for each pupil. There is usually an interval of ten minutes for recreation during both morning and afternoon class, so that the net time available for instruction is five hours forty minutes. This compares favourably with the four hours of daily instruction, which is the minimum exacted by the regulations of the National School Board in Irish schools. Having, wherever possible, carefully inquired into the subject, we have never found any complaints as to want of punctuality in morning attendance. Both teachers and inspectors assert that punctual attendance at 8.0 or 8.30, even in country districts, is the rule, and not the exception. One inspector (Mr. Trahe, of Cuen), said that, as a rule, children that had to come a long way to school were often more punctual attenders than those whose homes were beside the school.

Subjects taught.

With regard to the subjects taught in elementary schools, a division into *obligatory* and *optional* subjects is unknown. According to the Education Act of 1887, all the subjects mentioned are obligatory in every primary school, and no other subjects than those specified can be taught. An elementary school teacher, who knew English, for example, could not teach it to his pupils—(if his school had a compulsory standard, English might be taught, but not in the ordinary school). The subjects of instruction specified by the law are:—

1. Moral instruction; one lesson every day.
2. French (reading, explanation, grammar, spelling, and composition), two hours every day.

3. Writing, one hour daily in elementary standard and, no formal writing lesson in higher standards.
4. Arithmetic and metric system; $\frac{1}{2}$ hour to one hour daily.
5. Object lessons and first notions of science, especially as applied to agriculture, from $\frac{1}{2}$ to $\frac{3}{4}$ hour daily.
6. History of France.
7. Geography.
8. Civic instruction.
9. Drawing; two or three lessons weekly.
10. Singing, one or two hours a week, besides songs at coming in and going out of class.
11. Gymnastics, two or three times a week.
12. Manual occupations (needlework for girls), two or three hours a week.

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Dewling.

One hour daily.

Such are, in short, the requirements of the organic decree of January 18th, 1887. We have found again and again, however, that these directions are by no means rigidly observed. The Education Office at Paris has left so much liberty to the Department, and the Academy Inspector (*Inspecteur d'Académie*), who governs the Department, leaves so much to the District Inspector, that in reality there are very few primary schools in the rural parts where this programme is carried out in its entirety.

Arrangement of Programme.

When we came to examine the programme laid down in these subjects, we do not find a definite amount of work specified for each year of school life. Every subject is begun in the elementary standard, and the programme is arranged by standards, in each of which the pupil stays two years. Most Departments draw up a model time table and model lesson tables which they oblige the teachers to adopt. In all cases the time table must be revised and signed by the District Inspector. The lesson table often contains the work to be done in some of the subjects every month, but in the department of Calvados there is a lesson table, where for every week of the scholastic year a prescribed portion of the programme in each subject is laid down; e.g., for the first week in November, the pupils of the Department were—in history, studying Charlemagne and his successors; in grammar, the noun and its gender; and in science, the nervous system and the muscles. (There was no "moral work" in this lesson table. That part of the law of 1887 was disregarded).

Organisation of Schools with Single Teacher.

In a school under a single teacher, there are never more than three divisions of the pupils: these divisions are—(1) preparatory infants' standard; (2) elementary standard, and (3) intermediate and (possibly) higher standard. All the pupils of division (3) would get the same lesson, so that in such a school a pupil from ten to thirteen years of age would be hearing practically the same lessons over again. Inspectors that we spoke to regretted this fact, but did not understand how one teacher could conduct five or six separate classes without help. Monitors are not employed in French schools.

Certificate of Primary Studies.

There is a general complaint in France that the children leave school too young. The Compulsory Education Act of 1882 requires children to attend school until thirteen, but they may be exempted from further attendance if they pass an examination and obtain the "Certificate of Primary Studies." They may not enter for this examination until they are eleven years of age. The standard adopted for the examination is a mild interpretation of the pro-

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programme of the Intermediate standard. It has two portions, oral and written. The written tests are:—

1. Dictation, serving also as test of writing.
2. Arithmetic.
3. Letter or composition on subject chosen from one of the following branches:—
 - (a.) Moral or civic instruction.
 - (b.) History and geography.
 - (c.) Elementary notions of science and its applications.

The oral tests are:—

1. Reading, with explanation, and recitation of poetry.
 2. Questions on history and geography.
- For girls, there is also a test in needlework. To gain the certificate a candidate must get 50 per cent. of the total marks, and not get a cipher in any one subject.

Effect of Certificate on Teaching.

It may safely be stated that the examination for the certificate has determined to a great extent the character of the teaching in the ordinary country school. The subjects necessary for the certificate have had the most attention; the teaching of the others depends largely on the good-will of the teacher, or the disposition of the inspector. For years past the advocates of drawing, agriculture, and manual trainings in primary schools have been demanding that an obligatory test in these subjects should be added for the certificate. Until there is some examination in these subjects, say they, they will never get proper attention. By a recent decree, dated 31st July, 1897, some concession to these demands has been made by the authorities. In future the examination for the certificate will include:—

For rural schools (boys), a written test comprising one or more questions in the programme of Agriculture for the Intermediate standard. In town schools, there will be a very simple exercise in Drawing on the Intermediate standard programme.

The tests in Drawing and Agriculture have always been optional for the candidates, but the number presented is generally very small. In future these tests are obligatory, and this sanction is expected to do a great deal for Drawing and Agriculture.

Compulsory Attendance.

The French Compulsory Education Act is not satisfied if a pupil makes a minimum number of attendances in a year. The Act starts with the assumption that a pupil is bound to attend every day; if he exceeds four absences (that is, two whole days) in the month, his name is forwarded by the teachers to the attendance committee, who can demand explanations and inflict punishment on the parents, if they do not get satisfaction. The stringency of the measure appears to have defeated its own end, and, as we were assured on all sides that the attendance committee do not carry out the Act in most rural districts. The members of the committee being dependent on the popular vote for their appointment are obliged to please their constituents and accommodate the Act with leniency or drop it altogether. In Paris and other large towns it appears to be admirably carried out. Whenever a pupil misses one single attendance, a formal letter demanding an explanation is sent to the parent. We saw a teacher at the school of the Rue Tournefort writing such a letter, and were able to secure a copy of the form.

Average Attendance.

The attendance of pupils in general is very good. In the above-named school on the 20th October there were only six absence marks in the roll-book for the month of October (twelve school days) for a class of

fifty pupils. Mr. Bonaparte-Wynne supplies the following figures:—“In a mixed country school at Veneux, near Oyon, in Normandy, which I visited on the 1st November, I counted sixty-two absence marks in the roll-book for the month of October. This gives the following per centage:—

School-days, October.	No. of Pupils.	Possible No. of Attendances.	Actual No. of Attendances.	Percentage of Actual to Possible Attendances.
22	30	1,320	1,258	95.3

At Prelin, near Lille, I copied the figures for the year ending August, 1897, out of the roll-book. They are as follows:—

Total of attendances of all Pupils for year (11 months).	Possible No. of Attendances for year.	Percentage of Actual to Possible.
50,542	53,894	93.8

At Sainghin Male School, about 10 miles from Lille, I got the following figures for October:—

School-days.	No. of Pupils.	Possible Attendances.	Actual Attendances.	Percentage.
20	39	1,560	1,495	95.8

8 of the 39 pupils had missed more than four attendances, the excuses given were either “illness” or “work in the fields” (“travaux de campagne”). It would appear then that, in spite of the law on compulsory attendance being disregarded, the pupils come to school with very fair regularity. As already mentioned, however, the great majority cease to attend after they have gained the Certificate of Primary Studies.

Higher Council of Education.

To aid the Minister of Public Instruction in his decisions we find the Higher Council of Education, which comprises about 60 members, including representatives of higher, secondary, and primary education, selected for four years by their colleagues. There are six representatives of primary education, chosen by the vote of the inspectors of different grades and heads of training colleges, both male and female, and such teachers as are members of the departmental councils. At present these six members consist of two head masters of training colleges, the head mistress of the higher training college of Fontenay-aux-Roses, one head inspector, one district inspector, and the head master of an ordinary elementary school in Paris. The official at the head of the primary schools is called the Director of Primary Education.

Division of France into Academies.—Academy Inspector.—Departmental Council.

For administrative purposes France is divided into sixteen groups called Academies, each of which comprises two or more departments. At the head of each academy is the Rector; under the rector there is an official called the Academy Inspector, in charge of each department. These functionaries look after all three divisions of education. The department is divided into inspectors' districts, and all reports on schools, &c., are sent into the academy inspector and not to any higher official. Each department has its Departmental Council of primary education of about twelve members, including two inspectors named by the Government, the heads of both training colleges (male and female), and four teachers (two male and two female) elected by vote of their colleagues; this council is presided over by the Prefet, with the academy inspector as vice-president. It manages the schools of the department, controls the finances, and has the right of dismissing inefficient teachers, and taking other disciplinary measures.

Municipal Council.

For purposes of Local Government, each department is divided into communes, rather smaller than our parishes, administered by a mayor and a municipal

dipal council, elected by universal suffrage in the commune. This council has to contribute in part to the expenses of maintenance of schools, and appoints a committee of its members to administer the Compulsory Attendance Act.

School Finances.

The State, the Department, and the Commune share the expenses of supporting primary schools on fairly well-defined lines.

The State pays the teachers' and inspectors' salaries, as well as expense of free pupils in training colleges. The Department pays the expense of rent and repair of its training colleges, of the academy inspector's office, and a certain allowance to inspectors.

The Commune pays a lodging allowance to teachers, and all expenses of repairs to schoolhouses and of school stock, which includes textbooks, copybooks, sewing materials, and other necessities of the pupils.

Payment of Teachers.

The emoluments of a teacher consist of (1) salary according to class, (2) lodging allowance, on a scale which varies according to the population of the locality. They have, besides, the right to be lodged, rent free, or, in lieu of free lodging, an allowance (but this is not the same as the allowance (2) above).

A principal teacher receives an addition of 200fr. (£25) a year, if he has two assistants. If he has four or more assistants the addition is 400fr. (£50) a year. If there are six or more assistants, and the number of pupils on rolls reaches 500, the principal teacher is not obliged to take charge of a class, his duties consist in superintending the work of the assistants.

Classes of Teachers.

Teachers are divided into five classes, besides a class of probationers (*stagiaires*) in which every teacher on commencing must remain two years. Promotion from one class to another depends chiefly on length of service. The numbers in each class follow a scale on somewhat similar lines to that employed in the Pension Fund for Irish Teachers. There is a fixed percentage of the whole number in each class, and until vacancies occur no promotions are made. The higher brevet, obtained by a qualifying examination, is necessary to get into the first or second class.

The following table gives the salary for each class, the length of time to be spent in it, and the percentage of the whole number of teachers apportioned to each class:—

CLASS	Salary of Masters.	Salary of Mistresses.	Minimum time in each Class.	Percentage of whole Number of Teachers in each Class.
Probationers (<i>Stagiaires</i>),	32	32	2 years,	20 per cent.
5th Class,	40	40	5 years,	25 per cent.
4th Class,	48	48	5 years,	25 per cent.
3rd Class,	60	56	3 years,	15 per cent.
2nd Class,	72	69	3 years,	5 per cent.
1st Class,	80	64	—	

Lodging Allowance to Teachers.

The scale of lodging allowance for the ordinary elementary school teacher varies from £2 for localities with under 3,000 inhabitants, £4 for localities from 3,000 to 9,000 inhabitants, up to £16 for localities with a population of over 100,000. Teachers of higher primary schools, or of a complementary standard, get the double of these figures; probationers, however, only get half.

As these two payments make up the salary of the ordinary school teacher it will be seen that his pecuniary position is far from inviting when compared with that of his more fortunate Irish brother. Thus a French country teacher, say of thirty-five years of age, with fifteen years of service, might, with great good luck, have just reached the second class, where the sum total of his yearly income would be (1) his salary of £72, and (2) his lodging allowance of £5 or £4 more, besides, he would have a residence rent free.

In making promotions, the department is taken as the unit, and it is by the numbers in each class of the teachers of a department that the number of promotions is regulated. These promotions depend to a great extent on efficient service, and thus provide a great stimulus to good work on the part of the teacher.

Medals and other distinctions are awarded to efficient teachers on the recommendation of the inspector, such awards carry a good service salary of £4 a year.

There is a special scale of salaries for the Paris teachers, which is nearly double that of country teachers. The conditions of promotion are very similar.

To become an Elementary teacher, a candidate must possess, at least, the *Elementary Brevet*. Sometimes, however, the teachers are pupils of the training colleges, where they have spent three years, and on leaving they pass an examination which gives them the *Higher Brevet*. At this examination they are placed according to merit.

Appointment of Teachers.

All new appointments are made by the Prefect of the department, on the advice of the academy inspector. It is the practice to choose teachers from the training college according to the place they have taken in the leaving examination. In advancing teachers from one position to a higher one, efficiency is the only point considered, and personally the district inspector is all-powerful in the appointment.

This practice of appointing and advancing teachers solely on the question of their competency, and by persons who are in the best position to judge of that competency, must have been of enormous practical benefit to French primary education.

The Training of Teachers.

Each Department in France is bound by law to have two Training Colleges—one for boys, the other

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for girls. These Colleges are placed under the immediate supervision of the Academy Rector in the first place, and under that of the Academy Inspector in the second place. The head master is generally an ex-inspector of primary schools, and if not, he has had to pass an examination equivalent to that of an inspector; the head mistress has also to pass an examination qualifying her for the post; the actual appointment to either of the posts is made by the Minister of Education, who if not always guided in his choice by academic distinction, is however bound to make his selection from those who have qualified themselves for the position.

The Professors of the Training Colleges are chosen in the same way from those who possess the diploma of professor, a diploma which betokens fitness for the post, and which is usually obtained only by those who have been specially prepared for the duties of professors of training colleges by undergoing a two years' course of training themselves in one of the superior training colleges of France. Of these there are two: one for young men at St. Cloud, and the other for young women at Fontenay aux Roses. These colleges are quite characteristic of the case and solicitude taken by France for the perfecting of her educational machinery, and to them, perhaps, more than anything else, is due the fact that education in France, more than in these countries, is a profession.

The salary of the professors, like that of the primary teachers, is fixed by law, and rises by triennial increments; and thus, as their experience of teaching increases, and as they become more expert at their work, their remuneration also increases. The number of hours they teach per week varies with the nature of the subject, the professors of science having fewer hours than those of literature. The salary of a head master, plus residence, &c., varies from about £150 to £235; that of a professor of a boys' college, from £96 to £144; and that of a professor of a girls' college, from £80 to £120 a year—surely not extravagant treatment when one considers how highly educated some of these professors really are.

As the success of the education of the country depends mainly on the skill of the teacher in imparting knowledge, the French nation is as zealous that the teaching of the future master or mistress shall be as well done and as carefully inspected as we have seen she is, that the professor of the training college shall be properly qualified for his post. Consequently these colleges are subjected to continuous and varied inspection. First the rector of the academy visits them at least three times a year, hears the professors giving a lesson, takes notes of the method, &c.; then if necessary gives hints either directly or indirectly as to how it might be improved.

Next comes the Academy Inspector, his visits are much more frequent, at least twenty in the year, and vary in length from one to three hours. The visits of this functionary are so frequent and so general that he may be said to be the inspector proper of Training Colleges. Both these visits are always unannounced.

Lastly come the visits of the Inspectors General from Paris. These are more important, last longer—a day or two—and are generally made for each college about the same time every year. How thorough they are may be judged from the fact that the director of the college, who is generally the professor of pedagogy, is himself called on to give a lesson before these inspectors.

Again, attached to each Training College is a primary school known as practising school where the pupils of the second and third year go to acquire, by actual experience in teaching and in the practice of school management, their future duties. This is more necessary in France than with us, as they have never acted as teachers. The method adopted is the following.—Each master in the practising school takes for a week two pupils, one of the second year and the other of the third. The pupil of the third year is allowed to teach and to perform the duties of teacher,

always under the supervision and correction of the head master, the pupil of the second year acting simply as spectator and as a sort of monitor. Before the pupil of the third year is allowed to give a lesson he has to submit a plan of it to the director of the practising school, and when the plan has been approved of, he delivers his lesson, which is then criticised by the head master, who points out the faults, and gives, if needs be, a model lesson himself.

Besides this work in the practising school there is once a month what is called a pedagogical meeting, consisting of the pupils of the third year, one of the professors of the training college, and the directors, both of the practising school and the training colleges. One of the young teachers gives a lesson to the pupils of the practising school on the subject taught by the professor present from the training college. This lesson lasts about half an hour; the other pupils are called on to criticise it, and then the professor, or the head master, or both, add remarks as to method, &c. Once a month the boys are also called on to give a lecture on some subject suitable for entertaining the peasants and small shopkeepers of the country during the winter evenings; the method followed differs little from a pedagogical meeting. Another point which tends to ensure good work being done is, that the number of pupils in a class can never exceed forty, and is, in the majority of cases, not half this number. This enables the teacher to become more intimately acquainted with each member of his class, to find out his pupils' powers and capabilities, and gives him more time for that most potent of education—questioning.

To enter a training college, which is always a boarding college, pupils must have obtained the *Brevet*, a sort of third class teacher's certificate, (the examination for this *Brevet* is a written one in France, however, it turns more on the power of imparting knowledge and explaining principles than is the case in this country), must be over sixteen years of age, and must subscribe an undertaking to serve ten years as primary school teacher. This last condition is exacted, as everything in all these colleges is gratuitous, and it is subscribed because without the advantages afforded by a training college it is very difficult to obtain the Higher *Brevet*, which alone enables teachers to rise to the top of the ladder, either in position or pay, in the service.

The course lasts three years; the division of time and the subjects taught in the second year is here annexed for both boys' and girls' colleges. There are only slight changes for the other two years, consisting mainly in increasing the time given for literature for first year's pupils, and reducing in a corresponding manner the time given to science, and vice versa for third year's pupils.

Subjects of Study.	Hours a week.	
	Boys.	Girls.
Morals, Psychology and Pedagogy,	2	2
French Language and Literature	4	5
History and Civic Instruction,	3	3
Geography,	1	1
Writing,	1	1
Modern Languages,	2	2
Arithmetic, Book-keeping, and Mathematics,	3	3
Physics and Chemistry,	2	2
Natural Science and Hygiene,	2	1
Domestic Economy,	—	1
Drawing,	4	6
Theoretical Agriculture,	1	—
Manual Work (Wood and Iron)	3	—
" " Sewing and Cutting out,	—	3
Practical Agriculture,	2	—
Music and Singing,	2	2
	—	—
	32	30

Besides theoretical domestic economy, cookery, housewifery, &c., as in some colleges taught practically. Chemistry is usually taught in an experimental manner, even on the part of the students, but, as far as we could discover, it is rare to find a college in which the pupils perform any experiments in physics. The French, as well as ourselves, have yet to learn that there is something higher to be aimed at in the study of physics than the seeing an experiment made and committing the result to heart, viz., the making of experiments oneself, with the object mainly of acquiring the faculty of accurate observation, slow and careful investigation, and, finally, of discovering the laws and principles underlying the experiment, or to be drawn from the result.

With the object of making the study of practical agriculture possible, there has been since the year 1891 attached to every boys' training college a school garden, or, as the French more correctly term it, an experimental plot. What, however, surprises one most in connection with these gardens is their smallness—a quarter of an acre would be considered a fine one.

Higher Brevet.

The pupils of a training college have to pass a sort of qualifying examination at the end of each of the first two years, but the important examination for the Higher Brevet comes at the end of the third year, and for this the candidate puts forth all his powers, first, because the possibility of entering the first and the second class of teachers depends on it, and secondly, because his chance of soon obtaining a post as assistant master in a school also depends on it. It may be well to point out here that until the teacher reaches the second class his position and pay is the same whether he holds the higher or the lower Brevet, for in his *certificat d'aptitude pédagogique*, (so be described shortly) and his success as a teacher that determine these for him. It amazed and surprised the French greatly to hear that with us a teacher's position and pay depended, not on length of service nor to any great extent on power of keeping a school, but on his classification, which is obtained mainly by passing a written examination, in which methods of teaching scarcely hold the foremost place. They considered it almost incomprehensible that a teacher of 24 years of age could be at the head of his profession.

But to return to our teacher. Whether he succeeds in obtaining the Higher Brevet or no, his next step is to obtain an appointment as assistant in a primary school, where as *stagiaire* or probationer he has to teach for at least two years before he is allowed to present himself for the *certificat d'aptitude pédagogique* (certificate of teaching capacity). This is an examination consisting of a written and a practical part in the science and art of teaching and in school management; the practical part is held at the school where the teacher has practised since he became probationer, and lasts three hours. The candidate has to conduct his class and teach the different subjects of the day before the primary inspector and two head masters, and on his giving satisfaction in this trial he is at last, after five years' training, admitted as *titulaire* or fully qualified teacher. That he has been carefully prepared is evident, and that the last two steps are not mere formal ones is proved by the following statistics for the Department of Isère.

Higher Brevet—1895.

Candidates.	Per cent.
Boys—Training College, 18, passed 14	77.7
Otherwise prepared, 17, " 4	23.3
Girls—Training College, 25, " 21	84
Otherwise prepared, 32, " 18	56.2

Certificat d'aptitude pédagogique.

Candidates.	Percentage
1895, 130, successful 75,	57.6
1894, —, —, —	57.7

Mr. Wynn was present at a practical test for the *certificat d'aptitude* at La Bazoche (Nord), on Nov. 5th

Conference of Teachers.

And now it only remains to add, that far from being allowed to live on from year to year following old methods and remaining ignorant of new ideas, the teacher has to attend periodical meetings specially called for the purpose of discussing new rules and regulations, or for showing a better method of teaching certain subjects. These meetings are presided over by the academy inspector, or, in his absence, by a district inspector, and are well calculated to keep every teacher au courant with the onward march of educational ideas and methods.

In some departments there are two, and in others even three conferences a year. The subject is sometimes fixed by the education office, for example, the subject of the Annual October Conference this year, was the new system of teaching agriculture, as promulgated in the new Decree of this year. Teachers are bound to attend these conferences, and, where necessary, their travelling expenses to the place of conference are paid.

Special Certificates.

Besides the elementary and higher brevets, there are special certificates in certain subjects obtained by examination. These are the certificates for—(1) drawing; (2) singing; (3) gymnastics; (4) manual work; (5) modern languages; (6) needlework. These diplomas are generally found in schools with complementary standard or higher primary schools in possession of the special teachers of the senior classes in the respective subjects.

Inspection of Schools.

The system of inspection of schools is one of inspection pure and simple. There is no forced examination, annually or at any other stated intervals (except, of course, the Certificate of Primary Studies already mentioned). The inspector, however, employs all possible methods, both of minute interrogation of pupils and careful inspection of copybooks, to arrive at a clear estimate of the value of the work done. He has in (1) the *Journal de Classe*, (2) *Cahier de rendement*, and (3) *Cahier mensuel*, three very effective means of estimating the regularity, extent, and nature of each teacher's work. As a check on the performance of his duties, every teacher is obliged to keep a journal or logbook of the lessons given (*Journal de classe*). This book contains the subject of every lesson given every day in each subject. It is submitted to the inspector on his incidental visits; the latter notes a lesson given, it may be, in the previous week, he takes the class, and gives them an examination on the subject specified, and judges by their answering of the value of the teaching. In some schools (in some departments it is obligatory), a *Cahier de rendement* (circulating copy-book) is kept. This book is kept by the pupils, and in it are written all the exercises given daily during school-hours to each class. Each pupil keeps it for a day in turn, and then hands it on to the next, in whose charge it remains for another day. Thus all the written work of the year appears in it, comprising for the most part exercises in dictation, composition, grammar, arithmetic, &c., and so it presents a faithful record of the daily life of the school. Each pupil is, moreover, obliged to have a sort of permanent record of his school progress, called the monthly copybook (*cahier mensuel*). He keeps this all his school life, and does an exercise in it in each subject once a month. It is meant to show the stages of his progress during the whole time of his school attendance.

The inspector pays a great deal of attention to the time table and its observance. Every time table has to be approved and counter-signed by the inspector once a year. As already mentioned, in some departments a typical time table is drawn up at the office of the

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academy inspector, and its observance imposed on the teachers. Notes of lessons are also insisted on, in every large school, with several classes, they form a very serious portion of the teacher's daily work, and the omission to make them the evening before would be regarded as a serious breach of duty by the authorities.

At all inspections the teacher is watched giving a lesson to his school or class, and, if necessary, hints and counsels are given him by the inspector.

The inspectors' reports, of which the form is couched in very general terms, are sent in to the academy inspector. This official, who appears to have plenty to do, without much clerical assistance, keeps the reports, and duly files them for reference. Probably they are not seriously considered until some question of promotion or other action with regard to the teacher concerned is under consideration. Practically, therefore, the whole government of the schools is in the hands of the primary inspector, and their efficiency is, to a great extent, dependent on his zeal and goodwill.

Head Inspectors.

As the academy inspector does not make a return of his work to the Director of Primary Education at Paris, except a formal annual report concerned chiefly with school finances and the state of school buildings, the central executive authority would have very little control over education in the provinces were it not for the head inspectors (*inspecteurs généraux*). There are seven or eight of these, all resident in Paris; they have no fixed group of départements or districts under their charge, but chiefly concern themselves with the supervision of the training colleges, and occasionally unite the inspectors of a département in conference.

II. SUBJECTS OF MANUAL AND PRACTICAL INSTRUCTION.

(I.) KINDERGARTEN.

Kindergarten in Infant Schools.

Kindergarten and the methods of Froebel have not met with a hospitable reception in France. Naturally the country of their origin acted prejudicially to their development, and the little that has been borrowed from the German reformer is disguised under the name of "Manual Exercises." Kindergarten schools, such as exist in Belgium, are unknown. The French Infant school (*école maternelle*) endeavours not merely to teach a child good habits, but also to initiate him into the elements of reading, writing, and arithmetic, as well as to store his mind with a great deal of general knowledge (*connaissance usuelles*). In the infant school of the Rue de la Juvenne, Paris, which we visited on the 25th October, only half an hour a day is given to manual exercises. There is besides, however, half an hour for drawing.

Manual Exercises.

The Manual Exercises taught are not very numerous. The most general is paper-folding; paper weaving is also taught, much as we see it in our own infant schools. In some schools (especially that of Rue des Martyrs, Paris), the children are taught to fold and cut thin coloured paper, and afterwards to put the pieces together so as to form artificial flowers. Some of the specimens we saw at this school were really wonderfully well made, and so natural as even to deceive a keen eye. We were told, however, that this kind of work is not done in many schools. Embroidery in coloured wool, on paper and canvas, is general in most infant schools. This is used to teach the stitches for sewing, which are always done on canvas before calico or other material is used. Sometimes checkered paper is used for showing the stitches; this has the disadvantage of giving children a bad

manner of holding the needle and of inserting it into the material, as evidently sewing in paper is a very different operation from sewing on cloth. We saw knitting in wooden frames in the school of the Rue de la Juvenne. No sewing on cloth or calico is allowed in infant schools.

Drawing.

Under the head of Drawing, we find that some of Froebel's devices have been introduced. Before a child is allowed to take in hand slate and pencil, his powers of observation are trained by means of brick-building and dot-laying. A design, obviously an arrangement of straight lines, is drawn on the black board, and the child puts it on his kindergarten desk by disposing his little slats in an exactly similar arrangement. Tablets and bricks disposed in like manner are copied on his desk by the child. Having duly appreciated the notions of observing and copying, the child takes his pencil and checkered slate and copies some geometrical form drawn on the black board. He is encouraged also to draw freely any object he sees—it may be a dog, or a window, or another child's head. Most of the specimens of this kind of drawing that we saw were mere scribbles, and did not appear to be of any educational value. In general, drawing on checkered paper is condemned by all drawing experts in France, and rigidly excluded from the elementary schools. "It is like giving crutches to a child that has all his limbs intact, to teach him how to walk," said Mr. Goulin, one of the special inspectors of drawing in Paris. "It cramps the hand, and destroys the free sweep of the wrist necessary to execute a good bit of freehand."

The most striking thing about the French infant schools is the way in which, at all hours, seasons, and places, all kinds of scraps of general knowledge (*connaissances usuelles*) are taught to the children. The subjects which the teachers discuss with the children are most varied—animals, plants, parts of the body, clothing, food, names of days of week, heat and cold, rain and shine, length and breadth, air and water, and a thousand and one other familiar notions are brought to the notice of the child, and he is led to observe, wonder, and enquire about them. A word in a reading lesson, a shower of rain, any little incident of the school-day, even a fly on the wall, all these things are made the text for a conversational lesson, and the black board or personal chart are utilized every moment to rivet the attention of the children. All these things too are used to give an occasion for a little moral lesson, for if there is no religious instruction in French public schools, there is no lack of moral teaching. We watched a lesson in the Rue de la Juvenne which lasted fifteen minutes, and was suggested by the single word "fête" (festival or holiday) which occurred in the reading lesson. The National fête (July 14th) and its meaning, the Fête des Morts (November 2nd), Pope's fête and Mamma's fête, all these were talked of, explained, and dwelt on, by frequent questions to the children. Geography and history are not forgotten, and striking episodes of national history, or complexions of geography, such as the name of the village or the parish or the river near it, are all touched on.

Other subjects.

Besides a little reading, writing, and counting, physical exercises, with songs, are the other occupations. Any singing we heard was not a particularly brilliant performance, but the physical exercises were well executed.

Arrangement of School time.

In the infant schools the hours of instruction are shorter than in elementary schools, but the teachers are in attendance to receive children, who are frequently brought by their parents when these latter are occupied in working all day, as early as 8

clock. The school-day proper is from 9.15 to 11.30, and from 1.30 to 4. Children may stay at the school until 6, in cases where this arrangement suits the parents, for it must be remembered that these schools were originally established for their benefit rather than for that of the children. The lessons generally last for twenty minutes, and there is a break of fifteen minutes in both morning and afternoon school.

Class-rooms.

It is interesting to note that the old form of what school was a single large room in which often 300 or 400 children were grouped together under several mistresses, and that this form has completely given place to the class-room arrangement in which the children are dispersed into separate class-rooms in desks of about fifty each. Every class-room is provided with dual desks marked with discoloured squares (the type usually but incorrectly known as kindergarten desks) sufficient to seat all the children of the class, and on the walls there is a lavish display of pictorial charts, besides a great deal of blackboard space. There is a general consensus of opinion that the old system of collecting a great number of children on a gallery in a large hall bore little educational fruit. Indeed we saw no galleries in any infant school we visited. The city of Paris has staffed its infant schools on the general basis of one teacher for fifty children.

Besides the class-rooms every infant school has a sort of central hall (*gymnase*) where the children are received on entering in the morning and where roll-call and inspection as to cleanliness take place. Both the *gymnase* and the other rooms are usually well heated in winter with coke stoves.

As children enter the elementary school at seven years of age, and start so young to attack the somewhat formidable programme taught there, it is clear that they do not long continue the manual exercises alluded to above. In Paris schools they of course take up the paper and cardboard work of M. Jully's system (to be described shortly), but this does not include any other manual exercises, in other parts of France practically they leave off all manual exercises at this early age.

Inspection.

There are special lady inspectors of infant schools appointed by the State, and these are found in all the principal towns of France. The city of Paris has besides a special staff of inspectors for its infant schools. All the necessary material and school stock for manual exercises are supplied gratis out of the municipal funds.

Infant teaching at Training Colleges.

In the female training colleges there is no special course of study or certificate for those who are going to become teachers of infant schools. The necessary instruction in infant school-keeping forms part of the ordinary course of Methods of Teaching, and there is always a practising infant school attached to the training college. In Paris there is a free course of lectures in infant training for teachers given every Thursday by the directors of an infant school in Paris, M^{re} Decroly, who is a great advocate of manual exercises for infants.

(II.) and (III.)—MANUAL OCCUPATIONS

Legislative Enactments.

As far as the Legislature has been able to act, a serious attempt has been made in France for the past fifteen years to start manual training in the primary schools. The important Education Law of 1882, which introduced compulsory attendance and made a complete change in the programme of obligatory subjects, requires in the primary male schools "manual occupations and use of the tools of the principal trades" (*travaux manuels et usage des outils des principales métiers*).

This law was extended and amended by the Education Act of 1886, and the Organic Decree which followed it on 18th January, 1887. Among the obligatory subjects for male primary schools specified in the Organic Decree, we find (Art. 27), "the elements of manual work" (*éléments manuels*). In another section we read "two or three hours a week will be devoted to manual work for boys." Further official documents specified the detailed programme of manual work. As far as the law goes, the obligation for manual work in boys' schools is specific; there is no exception admitted for any State school.

Extent to which Law on Manual Training is carried out.

Many writers on French education have taken the requirements of the law for its accomplishment, and the word has gone forth that in every boys' school in France manual occupations are to be found. We have estimated it the most important duty of our mission to find out how far the law is obeyed, and on this point we believe we can speak with no uncertain voice.

In the City of Paris the law is obeyed and admirably obeyed. In nearly every boys' school workshops for wood and metal have been established, thanks to the lavish generosity of the Municipality; competent artisans and zealous teachers have been found to give an efficient instruction, and an admirably-arranged programme on educational lines for each of the standards has been drawn up and worked out in detail by the zeal and intelligence of M. René Leblanc, Head Inspector of Manual and Agricultural Training, with the active co-operation of M. A. Jully, Inspector of Manual Training for the City of Paris.

Paris, then, is first, and easily first, but the rest of France is very far behind.

We did not succeed in finding one ordinary elementary school outside of Paris where a regular course of manual occupations was given. In one or two country schools we saw a little paper-folding, in one even a bench for woodwork; but any work done was taken up at intervals in a more or less voluntary fashion, and there was no such thing as a regular systematic course of instruction continued throughout the school year, such as would really afford a useful educational training to the pupils.

In the provinces, practically, the only primary schools with manual training are:—

- (1) Elementary schools with complementary standard (see classification of primary schools, p. 2),
- (2) Higher primary schools,
- (3) Training colleges.

The number of schools for boys with complementary standard has already been given (p. 2); it is approximately 380. The boys do not enter this course until they have taken the certificate of primary studies, so that they hardly commence woodwork or metal work before twelve years of age. Nor can they enter the higher primary schools before that age.

Extent to which paperwork and cardboard is taught.

Of course woodwork and metal work are impossible without a special workshop, fitted with benches, vices, etc. The expense of this workshop has naturally deterred all but the richest municipalities from establishing wood or metal work in their schools. M. Leblanc's programme does not, however, demand wood or metal work as a *sine qua non*; on the contrary, there is a graduated series of exercises for each standard in paper work, cardboard work, and modelling, which does not require any special room or any costly apparatus.

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This work, therefore, we had at least expected to find in the rural schools, but in reality, as several inspectors and teachers told us, the law is a dead letter, and such occupations are non-existent. It would appear that there are two or three inspectors' districts where they are carried on, chiefly in the academy of Toulouse, where it is owing to the zeal and enthusiasm of the district inspector, but in general there is no serious work of the kind done in the ordinary elementary school. Even where there is a workshop, very little attention appears to be devoted to these preliminary manual occupations. At the school of the Rue Guilbert, Cass, where there is a complementary standard, and a true workshop, the intermediate standard only give *half an hour* weekly to a little paper-folding. At Lille, where the senior pupils of elementary schools go once a fortnight to do wood and metal work at the higher primary school, Boulevard Louis XIV., there are no manual occupations for the other standards of these schools.

So general has been the failure to establish manual occupations of this kind in rural schools, that even its advocates are beginning to give up the attempt. M. Leblanc told us, in an interview on the 16th November, that he thought it better that, in rural schools, manual occupations in the higher classes should take the form of agricultural exercises in the garden; and he says as much in his work on "L'Enseignement Manuel" (chap. ii, p. 28.)

Manual Work—Educational or Technical.

In France, as in every other country that has much diseased manual training, the partisans of this branch of education have advocated it for two different reasons:—(1) Because it is necessary to teach boys who will probably become artisans the elements of their future profession while at school (this we may call the *technical view* of the subject); and (2) because it is as important in education to develop the powers of manual dexterity and observation, that is, of the hand and eye, as it is to develop those of the brain (this is the *educational view* of the subject). The progress of manual training in schools would appear to have been a gradual development from the technical view to the educational view. It is quite clear, whatever may have been advanced to the contrary by others, that the system which now prevails in the elementary schools of Paris is mainly educational, combining as it does a complete training of hand and eye.

Kinds of Manual Work taught in Paris.

The Paris programme includes five distinct kinds of work, viz.—

- (1.) Paper-work.
- (2.) Cardboard-work.
- (3.) Modelling and modelling in clay.
- (4.) Woodwork.
- (5.) Iron-work.

As it is at present organised, no other material or occupation of a kindergarten character is approved. Basket work, cage-work, string-work, and other developments of the Froebel method are all excluded from the Paris system, because they do not early lend themselves to inculcating preciseness of observation or exactness of measurement.

Connection with Drawing and Geometry.

Drawing and geometrical form play an important part in these occupations. No exercise is ever accomplished without the accompaniment of a special copy-book, in which the pupil makes (1) a freehand sketch, (2) a plan to make of the object; together with a precise account of the operation in whatever kind of manual occupation he has been working.

If the school has a workshop all (5) kinds of work are gone through; if there is no workshop only the first three kinds are done. Out of 180 elementary

boys' schools in Paris, 123 are at present provided with a workshop. Of these, however, only 32 have the necessary fittings for iron-work, so that the rest work in wood only.

Programme followed.

The following is the manner in which the occupations are partitioned out among the standards:—

ELEMENTARY STANDARD.

(Age of pupils, 7 to 9.)

FIRST YEAR.—*Paper Cutting and Folding.*—Lines, angles, squares, surfaces, easy figures of 3 dimensions.

Paper modelling.—Various symmetrical designs.

SECOND YEAR.—Revision and extension of first year.

INTERMEDIATE STANDARD.

(9 to 11 years of age.)

FIRST YEAR.—*Paper cutting.*—Triangles, polygons, with study of their geometrical properties.

Cardboard work.—Regular solids, with applications.

Modelling in clay.—Geometrical and ornamental figures in moderate relief.

SECOND YEAR.—Revision of first year's work. Commencement of wood and iron work.

HIGHER STANDARD.

(11 to 13 years of age.)

FIRST YEAR.—*Cardboard work.*—(where there is no wood or iron work).

Modelling in clay.—More advanced.

Wood and iron-work.

SECOND YEAR.—Same as first year.

In general, in wood and iron-work, there is no particular amount of work exacted for each year. The pupils do as much as they can; those who get on well progress as fast as they are able. Twelve objects are, however, expected to be accomplished in a year.

A few words seem necessary to explain the general method followed in each kind of work, as we saw it taught at the elementary schools of (1) Rue Tournafort, and (2) Rue Fiecht.

(1.) *Paper-work.*

This work is confined to the elementary standard, and the first year of intermediate standard. The materials required are thin coloured paper, rectangular in shape, a copy-book, a pencil, and rule.

Each pupil is provided with a large rectangular piece of coloured paper. He is shown by reference to his paper the meaning of straight line, right angle, vertical and horizontal lines, squares, diagonals, parallel lines, triangles, and regular figures of more than four sides. He is taught to make a combination of papers of different colours; likewise a number of geometrical truths are demonstrated; indeed, nearly every proposition of the First Book of Euclid, without the writer's name being even mentioned. All this is done by very gradual steps, with plenty of recapitulation and revision. After each exercise, the coloured paper is pasted into the copy-book by the pupil, then a freehand sketch and a little plan to scale, with full written explanation of the lesson, is executed by the pupil. The copy-book work is regarded as of the greatest importance. Some elements of arithmetic,

chiefly in connection with the metrical system, enter into the lessons, so that the teacher attempts to unite geometry, arithmetic, and drawing to a united occupation.

(2). Cardboard Work.

The most general principles are followed out in cardboard work. After some preliminary exercises in cutting out surfaces in cardboard with a blunt-ended scissors, solid figures are made—the edges being fastened with thin tissue-paper gummed on. Copybook work is always insisted on; a plan to scale is drawn before the object is made, showing for example, the six surfaces of a cube flattened out, with the lines of construction marked. This plan is copied from the blackboard, and the measurements put in at the intersection and with the explanation of the teacher. Regular geometrical solids are first made, afterwards useful objects, such as a little box for pens, are made, but exact measurements are always insisted on.

(3). Modelling in Clay.

Here, again, the copybook is used before the work is begun. The first object is a geometrical rectilinear figure is slight relief. The pupil prepares a square foundation of clay; having drawn his figure in his copybook, he then carefully measures and draws the outline on the clay, and then with the fingers or some simple wooden tool he models out the design. The exercises soon change from rectilinear figures to designs of conventional flowers or other kinds of ornament. A graceful curve is clearly more suitable to the delicate manipulation of the fingers than straight lines of geometrical precision. In all cases drawings or plans of the design are made in the copybook.

(4). Woodwork.

In Paris the first class that goes to the workshop is the second year of the Intermediate standard, but in general only the most advanced pupils, and none that are under ten years of age. The tools that they are expected to use are not numerous. They are, in order,—

- (1). Rough file (rube), flat.
- (2). Round rough file.
- (3). Small saw.
- (4). Mortise-gauge (travaquin).
- (5). Plane.
- (6). Jack-plane (surfope).
- (7). Chisel.

The first exercises consist in cutting the wood in straight lines, and to right angles, which are measured with a square, and in filing down the ends and edges to the exact dimensions given for the exercise. As in the other exercises, the copybook is insisted on; an exact plan to scale is kept to it, and the greatest precision in measurement is exacted. Approximations to exactness or unfinished work are condemned and rigidly banished from the workshops. In the higher standards the fitting together of pieces of wood with dovetailing and mortise, etc., is carried out, the greatest precision reigning over all. Useful objects are sometimes made, but not much in the early stages, as they do not lend themselves generally to teaching precision and accuracy of measurement.

Lathe-work.

Lathe-work has never been omitted from the course for elementary schools, as it was not found of educational value, and the bodily exertion of working it was following to the pupils, and gave them no corresponding intellectual benefit.

(5). Iron-work.

The exercises in iron-work are of three kinds, graduated to the force of the pupils. Three different kinds of material are used for these—

- (a). Semi-cylindrical iron wire (in pieces about 8 inches long).
- (b). Thin sheet-iron (pieces of 2-in. square).
- (c). Iron-plate (in pieces 2½-in. wide and ¼-in. in thickness).

(a). The iron wire is used by the second year of the Intermediate standard. With a light hammer the pupils are able to bend it, cut it or form it into curves. In this way the outlines of surfaces and combinations of geometrical figures of two dimensions may be made; also ornamental designs with curves. Thin wire is used when necessary to rivet pieces together.

(b). The sheet-iron (also) is generally used by the Higher standard (third year). The design may be drawn on it with iron pointers or compasses, and it is cut with the hammer and various iron tools into hexagons, pentagons, etc., or symmetrical designs of flowers. By hammering it and using a piece of lead to support it, various forms of relief and embossed work (*repoussée*) can be easily executed. The designs made are similar in many cases to those used for the modelling.

(c). The thick iron-plate, which necessitates laborious filing to make an impression on it, is not as a rule used until the second year of the Higher standard (average age of pupil, 13½). The various geometrical forms are here again applied, and the work appears slow and tiring. In some cases useful objects, such as compasses, are made. Besides various kinds of files, the curver (*barin*) and drill (*foret*) are the other principal tools used.

Through all this iron-work, as in the other branches of manual training, the pupil never forgets his copybook, and a plan and detailed account of his work always accompany the operation.

Time given to subject.

The time given to manual training in the Paris elementary schools is in general two lessons a week of 1½ hours each. The pupils that go to the workshop (i.e., those in the Intermediate standard, second year, and higher classes) work at (1) woodwork, (2) iron-work, and (3) modelling in the same year. Where there are no fittings for iron-work, the time is divided equally between woodwork and modelling, where the workshop is fitted up both for woodwork and ironwork, the pupils of a class (usual number about forty-five or fifty) are divided into four drafts. Woodwork being considered the most important manual occupation, two drafts are set at it, whilst of the other two, one goes to ironwork and the other to modelling. In some schools they change occupations each week, in others they spend three months at each occupation at a time. The time is always arranged so that one half is given to woodwork, one quarter to ironwork, and one quarter to modelling.

Plan of Workshop.

The typical form of workshop, as we saw it at the Rue Pliet and the Rue de la Juiverie, is a well-arranged room, nearly square, fitted with twelve benches for woodwork (each giving room for two pupils, that is, in all for twenty-four pupils), twelve vices for ironwork, suitable for twelve pupils, and a small side portion of the room for modelling, also to give room for twelve pupils, so that in all forty-eight places are provided. The fittings and tools at the above-named schools were very numerous, and all were kept in neat racks, and ready for use. The cost of fitting up such a room was, M. Jolly told us, roughly about 2,500*fr.* (£100). It will be remembered that there are thirty-two of these fully fitted workshops in Paris, the others being set up for wood only.

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Artisan-Masters.

Each of these schools has the assistance of two artisan-masters, one for wood and the other for iron. The duty of these artisans is not to teach, they are there to keep the place in order, and the tools sharp, and also to prepare the pieces of wood when put into the hands of the children. Also, they show the pupils the right way of holding the various tools, and aid them in other ways. The intellectual part of the instruction is given by the class teacher, who always assists at the lesson, keeps order, and directs the work. These artisans are chosen by a committee from the best men that can be got in their respective trades. They must be over thirty-five years of age, and have good testimonials, and a certain amount of education. They get no special lessons in methods of teaching, except some advice from the Head Master of the school. Bad habits, such as coarseness or swearing, are sternly repressed, if they should give way to anything of the kind. They are paid 2,400 fr. (£36) yearly in the schools of Rue Pibet and Rue de la Fontaine. These artisans attend two schools, for half a day each; eight hours appears to be the usual length of their working day. Those we saw in the schools appeared to be most intelligent men.

Certificates for Manual Work.

It is part of the duty of the ordinary class teacher to give instruction in manual training. The State has, however (in 1887), established an examination for a special certificate for manual work (*Certificat d'aptitude à l'enseignement des Travaux Manuels*), and its possession entitles the teacher to an addition to his salary of 300 fr. (£12) a year. The City of Paris gives on its own account a certificate of manual work "without workshops" (*sans atelier*), which carries an addition of 90 fr. (£3) a year.

Inspector of Manual Work.

To control and direct the manual work of the Paris schools, there is a special inspector appointed by the municipality, M. Jolly, who is to a great extent the author of the programme followed. His inspection is more for purposes of control to teachers than of supervision. An ex-artisan himself, and at the same time an old pupil of the College of St. Cloud, he has a thorough knowledge, both practical and theoretical, of his subject, to which no doubt a great part of its success in Paris may be ascribed. He gives two lectures to teachers once a week in Paris during certain portions of the year. Besides these lectures, we have not heard of any others in France for teachers in the subject.

Manual Work in Training Colleges.

Since 1891 all the eighty-five male training colleges have been provided with workshops for wood and iron, where the pupils get two or three hours' work instruction in the official programme of the subject. Unfortunately, the promising schools attached to these colleges are not yet furnished with workshops, so that important side of the future teacher's education is much neglected. Another important factor is needed to make manual training a success in these colleges. At the leaving examination for the *Épave* School, there is no test in manual training, the result of the examina appears to be that, during the last year of their sojourn in the College, the pupils pay very little serious attention to the subject, as all their energies are naturally directed to passing the leaving examination with as much success as possible.

Manual Work in Provinces. Its technical character.

Turning now to the provinces, we have to state that we did not see any manual training outside of the higher primary schools, and the elementary schools with complementary standard. In general it struck us that the educational side of manual training

did not appear to be rightly appreciated outside of Paris, and in the schools where it exists the notions that underlie its teaching seem to be rather technical and utilitarian. At Caen, in the elementary school (with complementary standard) of the Rue Gambet (visited by Mr. Wyse on the 30th October), the aim of the teaching of wood and iron-work is very much inclined to be technical. The school even is locally known as the "Technical School" (*École Profesionnelle*). It is only the pupils of the complementary standard (age, 12 to 15) that go to the workshop. During the first six months they are allowed to work both in wood and in iron; at the end of that time they determine which they prefer, and remain at that kind of work for the rest of their school time. It is clear that the object of the manual work is not a general hand and eye training, but rather the preparation of an apprentice in a special subject. The same system of choice is apparent in the workshops of the Higher Primary School at Rouen (also styled "*École Professionnelle*" in the prospectus). The Paris system is not followed in these schools; the latter, condemned in Paris as not being of educational advantage, is here much used, as being a machine of universal application in all iron and wood trades, as the iron-work, the iron-ware and the tin plate (*étain*) that we saw in Paris schools are unknown, and the training commences with the thick piece of iron-plate and its laborious filing.

At Lille, the history of manual training is interesting and suggestive. A few years ago the municipality took the question up equally, and set up workshops in ten of the elementary schools. Whatever may have been the reason, the fact remains that, in 1896, they withdrew their support from these workshops, and completely did away with manual training in these schools. A new arrangement was made, by which the boys of all the elementary schools of the city attend for two hours on Thursdays at the workshop of the Higher Primary School, Boulevard Louis XIV. As accommodation is necessarily limited, the different schools send their pupils in turn, so that the same pupils get two hours once a fortnight. The class-master attends with his class, but takes no part whatever in the instruction, which is carried out by the artisan-masters belonging to the establishment. These pupils did not appear to use copybooks, nor to make plans or drawings. The outline was drafted by the wood by the artisan-master, and the boys used the tools to shape the wood according to directions given to them. The work appeared purely mechanical, and the general demeanor of the pupils was not of a nature to encourage the advocates of this training. The reasons given for the abandonment of manual training in the elementary schools were chiefly financial. The cost was found heavy, and in the opinion of the Municipal Council (of the value of which we cannot presume to judge) the corresponding advantages were not sufficient to compensate for the sacrifice.

At Orléans, also, manual training, although figuring in the official programme for 1893, has been quite given up in the primary schools; one of them has a workshop, but the only use made of it is to allow the pupils of the Higher Primary School to work in it.

A similar want of success has, we are told, attended the attempts made at Lyons, Marseilles, and St. Etienne, to start manual work in the elementary schools. We are not in a position to speak from experience of the state of affairs in these towns.

Reasons for want of success.

As far as we can judge from enquiries made on all sides, the causes that appear to have been responsible for this want of success may be claimed as follows:—

- (a) Continuity, because there is initial cost of fitting up workshop, and permanent cost of paying artisan masters. The State has, so far, made no

contributions to these expenses, so that the whole cost must be borne by the local municipal or village council (council communal).

(b) *Want of teachers.*—No attempt being made to educate the existing teachers in the subject, and those from the training colleges being too young and too few to take it up to any extent.

(c) *Want of a good educational system.*—Outside of Paris the systems employed appear to be too technical, and in general to be devoted with the object of producing carpenters and locksmiths rather than of giving a hand and eye training.

(d) *Hostility of teachers and indifference of inspectors.*—Being a new subject and little understood, the present race of teachers view it with disfavour. The inspectors, springing for the most part from the same social stratum as the teachers, share their views to a large extent. No pecuniary stimulus has been offered to teachers in general to induce them to teach it.

(e) *Want of time.*—“The French programme is already overburdened” was an opinion that met us on every side, and no attempt was made to leave out any part of the programme to make room for manual work.

(f) *General inability on the part of the parents to understand educational utility of manual occupations.*—In the eyes of the parents any branch of education that does not appear to produce an immediate result is regarded as lost time.

(g) *Want of sanction.*—No test or examination applied to elementary schools or training colleges, so as to exact a knowledge of the subject from the pupils.

The first reason cited (a) does not of course apply to the establishment of manual occupations, such as paper-folding, or cardboard work, for which no particular moral expense is necessary.

(IV).—PHYSICAL DRILL EXERCISES, &c.

Physical drill in the infants' schools has been already mentioned under the head of Kindergarten.

In the elementary schools gymnastics has been an obligatory subject since 1880. Two or three half hours a week are given to it, and in the large towns a special professor is often engaged to teach it. In Paris a very complete programme of physical drill, both for boys and girls, is carried out under the direction of Lieutenant-Colonel Dérég, who has been appointed special inspector of physical exercises in primary schools by this municipality. We had the pleasure of assisting at a full gymnastic display under the direction of the Lieutenant-Colonel at the schools of the Rue de Balence (girls), and the Rue Philippe de Guise (boys). For the boys marching exercises, extension motions, organised games of running, and taps of war were given in the courtyard of the school. The girls went through similar marching exercises and extension motions of a milder character; they also did some exercises with wands (*baguettes*), and even a little gymnastics on a horizontal ladder. We saw also the *Décoré générale* (an exercise suggested by the recent burning of the Charity Bazaar, in the Rue Jean Goujon), in which the pupils of all the classes, having been seated in their respective classrooms, to the number of some 450, got into their places on the sound of the fire-alarm, and poured out of the schoolhouse into the courtyard in an orderly stream. This manoeuvre was executed in both the boys' and girls' schools—in the former it took about two minutes, in the latter about three, for every child to leave the house. Great stress is laid on gymnastics in France for military purposes, the idea being to train the boys when as young as possible to habits of military dis-

cipline, and at the same time to develop their physical powers. The exercises are regarded as the preparation for the military service that every young Frenchman must go through. A staff of sub-inspectors of both sexes assists Colonel Dérég, and the State gives a special certificate to teachers for gymnastics. Three hours a week are also given to the subject in the Training College.

In rural schools, it would appear that little beyond a half-hour weekly for drill in the playground of boys' schools, and some marching when entering and leaving the class-rooms, is as much as the teachers can find time to accomplish.

(V).—DRAWING.

For the last twenty years Drawing has been obligatory, and is very generally taught in all primary schools, both for boys and girls. As is the case with almost all the subjects taught in Elementary schools, the children begin drawing at the very outset of their school life; as the main object of teaching drawing in primary schools is to train the observation and to give manual dexterity, the tenderest age is not considered too young for a child to learn its elements. We have seen how in the infants' schools the first exercise in “drawing” consists in arranging little slats or sticks on the desks in exact imitation of a pattern drawn by the teacher on the blackboard. Then the chequered paper is used, to which attention is taken by professors of drawing, on the grounds already alluded to, that it gives a bad habit to the child by destroying the first sweep of the wrist necessary in French. The term “drawing” cannot, strictly speaking, be applied to these early exercises; one professor that we met, Mr Guébin, of Paris, called them by the name of *Optogéométrie*, that is, the science of representing by means of the hand something perceived by the eye. At the same time the child is encouraged to make little sketches of any object that meets its eye or occurs to its imagination. As these sketches (those we saw were little better), are made entirely by a child, innocent of any ideas of method, they hardly represent serious work.

In the Elementary school, the elements of both Geometrical and Freehand Drawing are commenced together. In the early stages the programme is freehand is similar to our own, combinations of straight lines, and then easy and more difficult curves. About the beginning of the Higher standard, or, in the case of clever pupils, at the end of the Intermediate standard, some copying from natural objects is done. “Shading from the flat” (set down in our schools for second year of sixth class), is never practised, and some professors were rather amazed when told it existed in Ireland. The beginnings of shading are always done from the object hung up in a strong light. In small schools, however, they seldom arrive at object-drawing. Great attention seems to be paid to the technique of the subject, the methods of holding the pencil, of sitting at the desk, of drawing the line, are all carefully supervised. In the Elementary stage simultaneous exercises are given; for example, all the pupils having located two points on their drawing paper are required to draw the straight line between these simultaneously on a signal from the master and with one free movement of the wrist. The drawing of lines by peddling along, about one eighth of an inch at each movement, a bad habit bequeathed to the child by the chequered paper system, is corrected by this system of simultaneous work.

It is only in large city schools, and in schools with complementary standard, and in higher primary schools, that there is usually a special professor of drawing. The professor generally visits two or three schools; he teaches a draft or two of the Intermediate standard and all the Higher standard, when he attends a school. Three or four hours a week are given in the higher classes to drawing; in model drawing lessons are usually of one and a half hours long. These classes do advanced shading work from plaster

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casts and busts, as well as from natural objects. In some cases a section of the object is drawn beside the finished sketch. We saw copies done in this way of a vase, a watering-can, a jug, &c. Attempts are also made to develop originality in the following way:—A boy is asked to take some model—it may be a conventional flower or other design (such as we give in Ireland to second stage of fifth or sixth classes)—and to work the design into a border, by repeating it again and again in a symmetrical manner. Sometimes an hour of drawing class is given to a competition of this kind among the pupils. Occasionally "home lessons" in drawing are given; the pupil is asked to make at home from memory a drawing of the object he has sketched in class. We were told that in some cases excellent attempts in this way were made by the pupils.

In geometrical drawing the making of plane rectilinear figures and their measurement is the chief work done in the average school. In higher schools mechanical drawing is done, parts of machines are drawn to scale, and, where manual work is taught, the lesson in geometrical drawing has always a direct relation to the exercises of manual work done by the pupils. It is absolutely necessary for the teacher of manual work to have a good knowledge both of mechanical and freehand drawing.

Brush-work is not done in French schools, but sometimes pupils are allowed to colour their exercises in crayons according to their fancy. This is especially the case in girls' schools when any fancy needlework with art designs is attempted.

The addition of drawing as an obligatory subject for the certificate of primary studies is expected to stimulate its teaching in the schools. The obligation, however, only applies to town schools that are not required to teach agriculture.

At Paris there is plenty of supervision for drawing. Besides the ordinary district inspectors there are special inspectors appointed by the municipality. In every school there is an examination in drawing every three months for the pupils of the higher standard under the supervision of the head master. A sealed letter is sent to the director of each school bearing the model set for the examination, and the work of the pupils is carried out under his direction and sent in to the municipal inspectors. Besides, each school is required to send to the municipal inspectors a report on its progress in drawing every three months.

There is a complete course of instruction in both geometrical and freehand drawing at all the training colleges both male and female, and most of the specimens we saw were of great merit. Four hours a week, in three lessons, are devoted to the subject. Lessons are given by the pupils in training at the practising schools under the supervision of the professor. The subject is of course obligatory.

Having inquired what was done in France for the school teachers at the time that drawing was made compulsory, we were told that nothing was done. They were obliged to teach drawing as best they could; some did their best to get some instruction in the large towns, when possible, but most had to fall back on their own resources and carry out the command as best they could. In Paris there are numerous free classes in drawing open to almost anyone who cares to attend them.

The expense of all drawing materials, &c., in schools, falls, as already explained, on the municipal council, that is, in the country, on the parish council (soient communale). The city of Paris is extraordinarily lavish in matters of school expense, during 1893 its expenditure on primary education amounted to 30 millions of francs (£1,300,000)—about the same as the whole expense of primary education in Ireland.

(VI).—ELEMENTARY SCIENCE.

Notions of elementary science form a part of the regular obligatory course in French schools, and we were informed in many quarters that it was one of

the subjects that is most successfully taught. In the majority of elementary schools, experiments are unknown, though a movement is now on foot in connection with agricultural teaching to introduce a few simple demonstrations. In most of the schools with complementary standard, and in all higher primary schools, there is, as a rule, a well-appointed set of scientific apparatus, and in these cases all pupils get the advantage of experimental exhibitions to a certain extent. The want of apparatus in other schools has been got over to a certain extent by the use of very excellent textbooks with frequent plates, notably those of M. Paul Bert, and of MM. Bonnier and Beignette, by exhibiting the contents of school museums, and by frequent explanatory sketches on the blackboard, to which we noticed French teachers are very partial. Pupils also are obliged to keep copybooks in which the main points of each lesson are noted, generally accompanied with more or less successfully executed sketches. In the preparatory standard conversational lessons are given on the most ordinary natural phenomena. The official programme of elementary science in primary schools is as follows:—

PREPARATORY OR INFANTS' STANDARD.

Very elementary notions of the human body; hygiene (little bits of advice); short comparative studies of animals known to the child, and plants, stones, and metals; some plants used for food and for industrial purposes; stones and metals in common use.

Air and water (steam, clouds, rain, snow, ice). Little object lessons, the objects always to be in the children's hands or under their eyes.

Exercises and familiar conversations with the object of making the child acquainted with the first elements of common knowledge (right and left hand, names of days and months, distinction between animals, vegetables, and minerals, the seasons), and especially training them to notice, observe, and retain impressions.

ELEMENTARY STANDARD.

Graded object lessons, man, animals, vegetables, minerals. Observation of common objects and phenomena, with simple explanations. General notions on the transformation of natural productions into manufactured articles (food, silk, paper, wood, stone, metal). Little collections made by the scholars, especially during school walks.

INTERMEDIATE STANDARD.

Very elementary notions of natural sciences. General description of the human body, and an idea of the principal functions of life. Notions of the great classes of animals and of the divisions of vertebrates, taking one animal as the type of each group. Study of the principal organs of plants, by several selected types. Great divisions of the vegetable kingdom, pointing out useful and harmful plants (especially on school walks).

Three states of matter; notions about air, water, combustion. Little experiments.

HIGHER STANDARD.

Notions of natural sciences, revision of the previous course, with additions.

Man.—Notions about digestion, circulation, respiration, the nervous system, the organs of the senses. Practical counsels on health. Abuse of alcohol, tobacco, &c.

Animals.—Leading features of their classification (useful and harmful animals).

Plants.—Essential parts of a plant; principal groups.

Minerals.—General notions on soils, rocks, fossils, earth; examples taken from the neighbourhood. School excursions and little collections.

First notions of physics.—Balance, lever, first principles of hydrostatics. Atmospheric pressure; the barometer.

Very elementary notions, and very simple experiments on heat, light, electricity, magnetism; thermometer, steam engine, lightning conductor, telegraph, compass.

First notions of chemistry.—Meaning of simple and compound bodies. Metals and common salts.

In rural schools the tendency now is to direct all scientific teaching towards the explanation of principles that are found applied in methods of agriculture. In some schools we visited, the teachers have succeeded in illustrating several common scientific principles with simple experiments. (See more on this head under "Agriculture," and in *diaries*, at end of report.)

A fairly extensive course of physical science, with experiments, is conducted at all the Training Colleges. Three or four hours a week are devoted to the subject. More time is given to it in winter than in summer; during the latter season a little extra time is taken for practical agriculture.

When object lessons are given to the junior classes at the practicing school, the pupils in training are often obliged to make sketches of the things used. As a rule, a sketch drawn on the blackboard is preferred to a printed or coloured pictorial chart. The children seem to take more interest in the object when they see it drawn by the teacher.

In the teaching of arithmetic, especially in regard to weights and measures, the actual weights, &c., used in commerce are brought into the classroom and shown to the children. To show a child that ten decifines are equal to one litre, a teacher would put the two measures and a bucket of water, and require one of the children to actually prove the fact, by filling up the litre by means of the decifine, whilst the rest of the class count together the number of decifines required. Scales are generally used for the weights. All schools are required by law to have the necessary measures, or at least a pictorial chart, showing their relative sizes, hung on the wall.

(VII).—AGRICULTURE.

For two important reasons we are unable to report as fully as we should have desired on the working of the new plan of teaching Elementary Agriculture in France. These reasons are:—

(1) The new plan having been issued so recently (seven or eight months ago), the teachers have not yet been able, in most rural schools, to put it in proper execution.

(2) The time of year (November) at which we visited rural parts of France, was naturally unsuitable for seeing experiments in the growth of crops or vegetables.

Having, however, had the advantage of long conversations with M. René Leblanc, who is practically the author of the new method, and whose great courtesy towards us we have much pleasure in acknowledging, and having, besides, heard the views of many inspectors and teachers, we are able to give the following brief account of the subject.

The programme laid down in the Organic Decree of 1887, and hitherto taught, was somewhat like the Irish programme, a series of lessons from a text-book dealing with methods of cultivation of the important crops, gardening, and a few notions about the care of live stock, soils, manures, drainage, and common agricultural implements.

The new method would limit agricultural teaching in elementary schools to giving the pupils instruction in the scientific notions that underlie the principles and practices of agriculture, with reference to the conditions under which the crops grown are best developed, the reasons for the principal operations of cultivation, and the laws of growth of man and the domestic

animals. These notions are to be taught by means of object lessons, and by experiments. Actual methods of cultivation are not to be taught, because (1) the children of country schools (who seldom frequent the school after twelve years of age), are too young to learn them; and (2) the teachers cannot be expected to be complete masters of the art and practice of agriculture. It is desired that all scientific teaching in country schools should have an agricultural bearing, and that it should, as far as possible, be accompanied by experiments on the part of the teacher from the very first.

The nature of these experiments is two-fold:—

(1) Physical experiments, illustrating elementary scientific notions, such as the three states of matter, properties (e.g. density, volume) of air, nature of oxygen, nitrogen and carbonic acid gas, effect of these gases on life and vegetation, force of gravity, a few of the commoner phenomena produced by heat and light (e.g. combustion, expansion, reflection, &c.), germination of plants, and their economy.

(2) Experiments by cultivation in flower-pots or in assigned portion of school garden (*champ d'expérience*). These experiments have for object the demonstration of the different growth of plants according to their conditions, as regards manures, modes of tillage, &c.

The first kind of experiments is generally carried on during the winter months, the others in the spring and summer. Pupils of the intermediate and higher standards assist at and take part in them.

And here it may be well to point out the important distinction between what the French call (a) a school garden, and (b) a *champ d'expérience* (experimental plot).

The school-garden is the private property of the teacher, and used by him for his sole profit and advantage; if it is used in teaching agriculture, it is because it happens to be the most convenient place for that purpose. The *champ d'expérience* is, on the contrary, public property, and is used for demonstrating some important fact in plant-growth, or for making some interesting experiments useful either to children or to adults.

While nearly every rural school has a school-garden, not four per cent. of them have a *champ d'expérience*, and yet it is fully recognised by the leading authorities that, until every school has such a plot, much real scientific teaching on the value and correct use of manures and on the selection of the best varieties of the different crops grown in the locality cannot be expected. One teacher, when asked whether he had made any of M. Leblanc's experiments, replied: "No, I have no *champ d'expérience*, and I do not intend turning my garden into one." What stands next in the way of obtaining these plots is the fact that the rural communes, who have to pay the rate for them, not rightly appreciating their utility, do not care to incur the expense, but a new effort is likely to be made to point out to these communes the necessity of supplying them. As far as we could learn, these plots are of no great extent, none of them exceeding a quarter of an acre.

As the ministerial command which enforces this new form of scientific and agricultural instruction is of recent date, naturally these experiments are not found yet in many elementary schools. There are, however, some primary schools, perhaps 3 or 4 per cent., where some teachers with a taste for agriculture have done a little work of this kind. We saw some of these schools. Mr. Wyon visited the following:—

Male school at Freign, near Lille.

Male school at Sainghen, in same vicinity.

Mr. Dowling saw —

Male school at Pont de Claix (Isère).

Male school at Virelle (Isère).

[For account of visit to these schools, see *Diaries* at end of Report.

ASSISTANT B
J. H. B.
Joseph Bagnard
by M. Bagnard
Wyon and
Haghen
Dowling (Isère)

APRIL 11.
 III.
 Jean-Baptiste
 by M. de
 Wyse and
 Hughes.
 Diving.

As nearly every rural schoolmaster has his house attached to the school, with a garden of about a quarter of an acre behind it, it is usual in schools where the subject is efficiently taught to take the boys out to the school garden and indicate them into the various processes. In some localities there is a school walk weekly or fortnightly, during which the teacher gives the pupils object lessons in agriculture, by drawing their attention to the methods of cultivating the fields.

In most schools there is a little school museum, where specimens of various plants, soils, chemical matters, etc., are kept for use in object lessons; in one school visited, where the teacher was very handy, there were models of ploughs, harrows, and other agricultural implements, all specimens of his handiwork. Every pupil is provided with an agricultural copybook, in which he writes out the main heads of the lesson given, and often adds sketches of the plants, or animals talked of. The blackboard is greatly resorted to, and, wherever practicable, any object mentioned is sketched on it. At Freix (see school), in a small village, six miles from Lille (Nord), a boy was called up to the blackboard, and drew a rough sketch of a plough with all its principal parts clearly shown, on the occasion of our visit.

As the first difficulty that occurs to the mind for starting these experiments in rural schools is naturally the expense, the promoters of the new method have only advised teachers to attempt very simple demonstrations which do not require any costly apparatus. As, however, a few glass-tubes and a spirit lamp are indispensable to the majority of them, a list has been drawn up by M. Leblanc, and he has arranged with a purveyor of school stock in Paris to put on the market a box containing the apparatus necessary for the principal experiments at a cost of 20 fr. (15 shillings), post free for France.

With regard to the preparation of teachers for carrying out these experiments, the new system has been introduced into the training colleges since 1892. In that year M. Leblanc made a tour of the eighty-five male training colleges in France, and gave a lecture to the professors on his views, and what he needed for their realisation. The rest was left to the professors of science and agriculture to carry out in the preparation of the pupils in training. In some colleges the new method has prospered well; in others the staff has not so readily adapted itself to the change, and little is done.

All the provincial male training colleges are provided with a large garden, and at favourable seasons of the year one-half of the time devoted to agriculture is spent by the pupils in the garden, where they are shown the best method of accomplishing various horticultural operations, and the manner of propagating and grafting fruit trees. In some colleges every student, at the commencement of his three years' course, makes a grafting of his own, and keeps a careful watch, during the rest of his period of training, over the result of his work. Horticulture and arboriculture are the portions of agriculture that appear to be most successfully studied.

The professor of agriculture at the training college does not confine his instruction to that institution only. Part of his duty is to travel through his department and give public lectures on agricultural subjects in the villages. He gives one of these every fortnight at least. He also visits the farms of experience, and gives a word of advice here and there as to their management. He does not do any formal agricultural inspection, however; his various duties would not leave him time to visit the 300 or 400 boys' schools of a department.

To assist the existing teachers to put the new method into practice, they have been invited to discuss the subject at all the Teachers' Conferences held this autumn.

(VIII).—NEEDLEWORK.

Sewing and knitting are obligatory subjects in all girls' schools. Cutting-out and dressmaking are not much practised except in schools with complementary standard and higher primary schools. Not nearly so much time is devoted to needlework in France as with us; two lessons of one hour or one and a-quarter hour weekly are generally found. The miscellaneous method of teaching is always practised, and every new stitch is done in calico before cotton is used. The following will give an idea of the programme for each standard.

Elementary Standard.—Work first done on canvas. Running, hemming, top-stitching, a little back stitching. Children make up handkerchiefs, napkins, &c. Cross-stitch for marking linen is also taught. Knitting on two and four needles.

Intermediate Standard.—Work of preceding standard in more detail. Marking linen, letters of alphabets, eyes for hooks (*broches*). Knitting and darning.

Higher Standard.—Finer material used; button holes; sewing on garters (*poignets*); feather-stitch; patching. Samples are often made with several kinds of designs formed by drawing threads and fancy stitches. Knitting of petticoats, gloves and woollen waistcoats. Darning of linen.

Coloured thread is used a great deal. Every month each pupil is obliged to put by a specimen of her work. These are kept, put in order, and submitted to the inspector on his or her visits. The State inspectors for girls' schools are all men, but the city of Paris has appointed some lady inspectors to look after the subject.

In the complementary standards of some of the Paris schools, and in the higher primary schools in general, a fair amount of fancy needlework is done, and the pupils are encouraged to invent designs. Much in the same way as in done to encourage originality of design in drawing, the pupils are shown how to take some drawing copy with which they are familiar, and by a repetition of its outline to form a border suitable for the edge of a handkerchief or other article. Some work of this kind done at the school of the Rue des Volontaires, Paris, was really excellent. In cutting-out also, a knowledge of drawing is utilised, for the pupils always draw their patterns on a smaller scale in drawing books, and, as far as possible, without the aid of instruments. In the higher primary schools, cutting-out is very carefully taught, and there is a special extern teacher for the subject; in Paris she also teaches millinery.

There is no disposing of finished articles in France by sale. They are, if suitable, given away to the poor. The materials are usually supplied by the local authorities; the head mistress is allowed a certain sum per head for each pupil, and out of this she has to supply all the materials necessary. In the higher primary schools a fixed sum for the year is put at the service of the director.

(IX.-XII).—COOKERY, LAUNDRY, HOUSEWIFERY, DOMESTIC ECONOMY.

It cannot be said that the training of girls in household occupations is yet very widespread in French primary schools. In the provinces very little beyond a book lesson once a week in domestic economy is given in the town schools, practical work hardly exists. In Paris, cookery classes have been started in some of the girls' schools that have complementary standards; there are twenty-eight or thirty of these in Paris, and it is intended to have practical classes in all of them. The subjects taught in the best organised school (Rue des Volontaires) are (1) cookery, and (2) ironing, and cleaning of table linen, linens and household utensils. Laundry work has been attempted, but without success. It was found unwholesome, owing to the fact that the pupils when going out into the open air from the overheated atmosphere of the washroom were very

able to catch colds, especially as it not unfrequently happened that their clothing got wet in the course of the washing operations.

The instruction in practical subjects is confined to the pupils of the complementary standard (age, thirteen or fourteen years to sixteen years.) For cookery the pupils are divided into four drafts of ten or twelve each (12 appears to be the highest number allowed to take part together in a cookery lesson, and in the province it rarely exceeds six.) There are two classes each week, but not for the same pupils. Each class lasts during a whole morning attendance from 8 or 8.30 to 11.30. The classes are held on consecutive mornings, on Tuesdays and Wednesdays in each week. On Tuesday mornings a fresh joint is cooked, on Wednesdays the pupils are shown how to treat what is left of Tuesday's meal, so as to make a wholesome and palatable repast. The draft which attends on Tuesday one week will take part in Wednesday's class in the following week.

At each class a definite bill of fare of a simple dinner for a poor family is gone through. The pupils partake of what they have cooked at noon for their lunch. Isolated dishes are not taught; it is always the complete menu of a full meal, consisting of soup, two dishes containing meat or fish, and a vegetable or pudding. Here follows a specimen of two menus, one for a Tuesday and the other for the day after.

Tuesday—Potato soup

Roast veal.

Fried fish.

Vegetable salad.

Wednesday—Omelette soup.

Remains of veal in hash or rissoles.

Fried potatoes.

Stewed apples (or other fruit.)

Sixteen of these menus have been drawn up by the Municipal Inspector of Housewifery (*Travaux de Ménage*), and due regard is had to the use of the vegetables, fish, &c., that are in season at the different periods of the year. There are, therefore, sixteen

lessons altogether for each draft. For the schools of Paris, where cookery is taught, the official menu must be rigorously followed. As Mrs. Schöffer, the lady inspector of cookery for the Municipality, told us:—
"If I visit any of my cookery classes in Paris on a certain day in October, I know I shall find all the pupils engaged in preparing a stewed rabbit!"

In these schools there is a special teacher of cookery who receives 4 francs (3s. 4d.) for each lesson. The special teacher is allowed 40 centimes (16d.) per pupil to supply the materials for the menu; in some schools it is said that she takes the pupils with her to market in the morning in order to give them some ideas about marketing, and knowing good meat from bad; it seems doubtful whether the practice, however desirable, is really carried out. Each pupil keeps a notebook in which the details of the preparation of the various dishes are written out, together with the prices of the ingredients. Gas stoves are generally used for cooking purposes, and where it is possible each pupil has a stove to herself. In the Higher Primary School Edgar Quinet (*Rue des Martyrs*), a very simple arrangement has been devised. An indurubber table is connected with an ordinary gasjet in the refectory, and laid out to five round gasburners which are disposed at intervals of a yard along a bench. This supplies five fires for the pupils to cook at; but naturally the number of dishes that can be prepared at these appliances for guests is rather limited. At the cookery class in this school all the pupils assist, but only ten are chosen for practical work, five to cook at the gas-burners and five to wash and prepare the ingredients. The others sit and look on. During the lesson the theoretical lessons given on domestic economy are extended by reference to the practical work that is going on.

With regard to ironing and cleansing of table linen, &c., the drafts that are not engaged at cookery take part in these lessons in an adjoining apartment. The various processes of ironing are explained, and various methods of taking ink or grease spots out of table linen, clothes, &c., as well as the cleansing of lamps and knives and plated ware are shown to the pupils.

IV.

REPORT ON MANUAL AND PRACTICAL INSTRUCTION IN PRIMARY SCHOOLS IN THE FRENCH-SPEAKING CANTONS OF SWITZERLAND.

By MR. E. J. HUGHES-DOWLING, B.A.

The three principal French-speaking Cantons of Switzerland are Geneva, Vaud, and Neuchâtel. Of these I had time to visit only two, as in the first place the time was limited, and in the second manual work being taken up in the afternoon, only half the day was available for visiting schools. It is well to remember that, each of the Cantons being for purposes of internal government independent of each other, the ideas and methods of education which obtain in one are quite different from those of another. This was unmistakably shown in the case of the two neighbouring Cantons I visited. For while the educational life of Vaud presents few striking features, that of Geneva is one of the most fully-organized and most interesting in Europe. When in France I was told that I would find at Geneva a school organisation well thought out and well developed, and worthy of a close study. My experience having confirmed this view I feel called on to describe it at some length, although the Canton itself is very small, its area being only 169 square miles, or a third of the County Dublin.

PRIMARY EDUCATION IN GENEVA.—GENERAL SKETCH

In Geneva it is to be found three principal kinds of education (a) Primary; (b) Secondary, and (c) Higher or University education.

The primary schools are divided into the following classes:—

1. Infant Schools for infants from 3 to 7 years of age.
2. Primary Schools for children from 7 to 13 years of age.
3. Complementary Schools for apprentices from 13 to 15.
4. Secondary Rural Schools for pupils from 13 to 15.
5. Housewifery Schools for girls from 13 to 15 or 16.
6. Technical School for boys from 13 to 15.

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APPENDIX B.
III.
Joint Report
by Messrs.
W. and
H. Hughes-Dow-
ling.

APPENDIX B.
IV.
Mr. Hughes-
Dowling's
Report.

ALEXANDER B.

Mr. Herbert
Dunlop's
Report.

1. Infant Schools.

Infant schools are generally found not only in the towns and large villages but also in every commune. The children are usually divided into two classes, a lower for those under five years of age, and a higher for those over that age. When the number of children in a class exceeds fifty, it is divided into two parts, and each is put under a single mistress, and if possible in a separate room.

The subjects taught in infants' schools to the higher class are—(1) moral conversation and stories, (2) object lessons, (3) mother tongue, (4) writing, (5) arithmetic up to the number 10, with the fractions $\frac{1}{2}$, $\frac{1}{3}$, and inscription up to 20, (6) geometry, (7) drawing, (8) singing, (9) gymnastics, (10) sewing.

All these have to be taught as far as possible intuitively, by means of kindergarten gifts.

The length and division of the school day is an exact copy from the French, and calls for no details.

2. Primary Schools.

The programme of primary schools is lighter than that of France—as may be seen from the following table which I give in full, as it changes from year to year. The figures indicate the number of hours per week given to the studies:—

PROGRAMME OF STUDIES—BOYS' SCHOOLS.

	1st year	2nd year	3rd year	4th year	5th year	6th year
Mother Tongue	18	16	15	15	9	9
Arithmetic	2	2	4	4	3	3
Geometrical	-	-	2	2	2	2
German	-	-	-	2	3	3
Geography	-	14	2	2	2	2
History	-	-	-	-	14	14
Drawing	2	2	4	2	2	2
Writing	1	14	18	1	1	1
Gymnastics	2	4	2	2	14	14
Singing	2	2	14	1	1	1
Manual Work	2	2	2	2	2	2

By mother tongue is understood object lessons, reading, and recitation, composition, spelling, and grammar. In the three highest classes the teaching of manual work ceases after April 15th, and the three hours are divided between the mother tongue and arithmetic.

The programme for girls' schools differs little from the foregoing.

The children are divided into six classes, and, as in Ireland, each class is, as a rule, taught separately. In the city there are distinct schools for boys and girls, but in the country the schools are mixed, with a female teacher for the lowest three classes and a male highest three. The child remains for one year in each class, and then has passed, if clever and attentive, through all the classes when he is thirteen years of age, but this rarely happens, as pupils usually leave school before they reach the sixth class.

3. Complementary Schools.

The pupil now has a choice as to what he will do. Should he elect to become an apprentice he has to go to a complementary school, where he receives instruction for only seven hours a week, viz. from eleven to twelve daily except on Thursdays, when he has to attend from ten to twelve. He learns (1) French, (2) arithmetic, (3) book-keeping, (4) history, geography, and civic instruction, and (5) drawing. The regulations for girls is the same as for boys, except that they learn domestic economy, cutting-out, and

making up, instead of history and civic instruction. These classes are usually held in the primary school of the district where the pupils are apprenticed, and they are attended fairly regularly. The fact that every one in Geneva dines between twelve and one facilitates the holding of these classes in the middle of the day. I was present at a boys' class one day in Carouge (a suburb of Geneva), eleven boys were present, and each of them bore unmistakable signs of his having quit a workshop or some such place. They appeared to be very attentive to their work.

4. Secondary Rural Schools.

Next come those who, living in the country, wish to devote themselves to agriculture or house-keeping; for them there is what is called a secondary rural school (*école secondaire rurale*). The programme of studies in this school for boys is as follows:—(1) French, (2) German, (3) arithmetic, (4) Geometry, (5) physical and natural science, (6) geography and history, (7) drawing, (8) special courses of agriculture and manual work, (9) gymnastics, and (10) singing. That for girls is the same, except that we find domestic economy, cutting-out, dressmaking, and sewing in place of agriculture and gymnastics. These courses last from nineteen to twenty-two hours a week, those for the boys being held in the morning from 7 to 11.30 or 12, and those for girls from 1 to 5 or 5.30 p.m. These schools are built and furnished by two or more communes united together for the purpose. The one at Bernex supplies the wants of four communes. The Canton pays the teachers and the special professors and supplies the materials necessary for the daily work of the pupils.

5. Ecole Ménagère.

For girls there is still the *Ecole Ménagère* (House-keeping school) of Geneva or Carouge.

This class of school, as it must imply, has for its raison d'être the preparing of young girls for the many occupations which are the lot of a woman in the bosom of her family. The course lasts two years, and comprises both a theoretical and a practical course. The programme of studies with hours per week is the following:—French, 3, German, 2, arithmetic and book-keeping, 3, geography and elementary science, 3, domestic economy and hygiene, 1, drawing and notions of geometry, 4, cutting-out, dressmaking and embroidery, 7, washing, cleaning and mending, 3, cooking, 3. Hygiene and gymnastics half an hour a day.

This kind of school is quite a new feature in Geneva. The one in Carouge was opened about five years ago, and having proved a success, as evidenced by a steady increase in the number of pupils from twelve in 1892 to forty-four in 1896, a new and larger one was opened in the city itself last October with 150 pupils.

Technical School (*Ecole professionnelle*).

This school, founded in 1887, although bearing the title "professional," is not to be taken as a technical or apprenticeship school in any narrow sense of the word. Its object is not to teach any particular profession or trade, but simply to give its pupils such a knowledge as will make them conscious of their abilities and tastes, and will enable them to choose whatever calling in industry, commerce or arts, pleases them best. It thus resembles to a great extent the more educational of the Higher Primary Schools of France, in fact, it seems to me that the new organisation of the latter in the French provinces is more or less copied from this Genevese School, as subjects and hours are much the same in both.

The pupils stay in this school from 13 to 15 years of age, and while in it they are prepared for an apprenticeship to a special trade or calling. The pos-

section of its certificate enables pupils to enter any of the following special schools of Geneva:—

1. Industrial Arts School (4).
2. Watchmaking School (5). The figure after the
3. Mechanical School (5) schools represent the
4. School of Fine Arts (3). number of years the
5. Horticultural School (3). training lasts
6. Commercial School (3).
7. Technical or pedagogical section of the Gymnasium.

To enter this Professional School the pupils must have passed the Fifth Class of the Primary School and be 13 years of age.

The weekly division of time is made as follows for the different subjects taught:—

Subjects taught	Hours	
	1st year	2nd year
French,	4	2
German,	4	4
Geography, History, and Civic Instruction,	4	4
Arithmetic and Algebra,	2	2
Geometry,	2	2 or 3
Mechanics,	2	2 or 3
Natural History,	2	-
Physics,	2	2
Chemistry,	-	2
Book-keeping,	2	2
Model Drawing,	2	2
Technical Drawing,	2	2
Manual Work,	2	2
Gymnastics,	2	2

The manual works to which the limited time of three hours is given comprise wood and iron work and modelling. These are intended simply to develop dexterity of hand, power of accurate observation, accurate execution, and to complete the teaching of drawing, to which, on account of its importance, as many as nine hours a week are given each year.

As a conclusion to this part of sketch, I may remark that nothing so characterizes the scholastic organization of Geneva as the supply of all sorts of schools to meet the wants of the people. The École Menagère and the Secondary Rural Schools are two cases in point, and to these may be added the Professional School which, while attending to the literary and scientific education of its future workmen and artisans, at the same time gives them such a fructuouse of manual training as makes them desirous of devoting their lives to this kind of work rather than to becoming mere clerks. With what profit to the country all this is done it is needless to state.

Educational Organization.

The teachers of Geneva have to assist at periodical conferences held under the superintendence of the inspectors. The youngest teacher present acts as secretary, and an account of the meeting and the subjects discussed at it has to be sent to the Director of Public Instruction.

All education is compulsory and free in Geneva, up to fifteen years of age, but as is easily seen from a study of the schools to which children go after thirteen years of age, the law is easily complied with when the pupil leaves the primary school. There is a certificate of primary studies, as in France, but it may be safely asserted that all children in Geneva under twelve years of age are being seriously educated, as compulsory up to that age is in that State a truly living force.

Every commune is by law obliged to have both an infant and a primary school. The communes have to provide and maintain the school-houses and the necessary furniture; the Canton pays and appoints the teachers and supplies the books and other accessories for the pupils.

Inspection of Schools.

Primary education is under the control of a Councillor of State specially charged with this duty. He is assisted by a director of education who has under him ordinary primary inspectors, an inspector of manual training, an inspector of gymnastics, and a lady inspector for infant schools and teacher of needle-work, &c.

In Geneva a very complete system of supervision is exercised over the work of both teacher and pupil, this comprises not only inspection such as it exists in France, but also oral and written examinations. As the latter part is somewhat different from what is found elsewhere, I give a more or less detailed account of it.

All the children of a class have every year, to undergo at least two examinations—an oral and a written one—and promotion from one class to another depends on the results of these two examinations. These examinations are held at the end of every six months. The oral one is held by the inspector, and turns on reading, arithmetic, German, history, geography, and natural history. The written one is held by a committee, named by the Department, and consists of French, German, arithmetic, and geometry. The teachers of the school are generally included in the committee, along with some independent persons. This examination affects the pupils rather than the teachers. There is also, once a year, an examination in drawing, singing, and gymnastics.

Besides these examinations there are, as has been stated, visits of the inspector from time to time to see that the methods of teaching followed in the different classes is efficient, and in keeping with the approved principles of the science of teaching. The inspectors have to send a report of their visits, &c., to the Director of Primary Education.

Training of Teachers.

The number of teachers in Geneva being necessarily small, the Genevese do not care to incur the expense of opening a special training college for them, nor, indeed, are they very enamoured of the idea of educating their future teachers in colleges, where their ideas would not be likely to be enlarged by mixing with persons of different views and different lines of thought. For this reason the authorities let the male teachers follow the course of the Intermediate College, called a Gymnasium, taking care, however, to fit them for their future calling by special lectures on psychology and pedagogy, as well as obliging them to attend lessons, &c., in the different primary schools of the city. The same plan exactly is adopted for female teachers, except that they go to the girls' high school. The number of male aspirants is not many—about twenty, while the number of female students is, at least, fifty. This, I was told, is due to the fact that the teachers' diploma is very useful in obtaining the position of Swiss governor in English and American families.

To become a teacher the candidate has to pass an examination, and has then to serve without pay from one to two years as assistant in a primary school, at the end of which time he has to present himself for a practical examination, lasting two or three hours, in teaching and school management before being finally admitted as a fully qualified teacher. His pay and the method of periodical increments are much the same as in France, and his success as a teacher is rewarded by a quicker rate of promotion, while the hopes of higher pay for efficient services tend to keep him alive at his work.

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Mr. Fischer-
Duchêne's
Report

A teacher of a primary school in Geneva has to teach every subject in the programme, and there is no certificate required for the teaching of special subjects, such as manual work, not any extra pay given for the teaching of them. When manual training became obligatory, as it has been now for more than ten years, the teachers had to teach it as best they could; it is true that they were given the means of learning all about it, by being invited, say requested, to attend courses of free lectures and practices on the subject, by the inspector of manual work, but, that done, they had to teach it as best they could, whether they had profited to any extent by the instruction given them. This method depended for its success on the determination of the inspector of manual instruction to have the pupils put in a position to produce manual work at any cost and we shall see, later on, how he sets about the work and how he succeeded.

II.—SUBJECTS OF MANUAL AND PRACTICAL INSTRUCTION

(1.) *Kindergarten.*

Kindergarten as practised in Geneva, partakes rather of the French method than of that practised in Belgium. It differs, however, from that of France, in that it does not banish completely Froebel's gifts, and it goes in more for manual exercises. Besides the ordinary work of folding and plating paper and making paper flowers, the arranging of coloured beads on strings, so as to produce bracelets and necklets, is also practised. In the infant school at Cuvage, I also saw an interesting exercise, which consisted of plating wire rings—beaten into halves, quarters, and three quarters—in such forms as to produce borders and other artistic effects. Another exercise—calling however for great watchfulness on the part of the teacher—consisted in getting the children to prick patterns of various kinds on paper, by means of a very fine bodawl. To do this the more easily, the paper is placed on a square of thick material, into which the point of the bodawl easily enters. As in France, the children are introduced to some of the principal stitches using in sewing, but always with wooden or straw thread and coarse canvases. The lessons in drawing are such as are ones in Irish Kindergarten Schools, on squared or rather dotted paper or slates, and labour under the disadvantage of giving the children a stiff method of using their hands; the results of this method, however, as seen in some of the books, were, so far, satisfactory and interesting. As in France, the first lessons are given by means of slates &c., the children have then to imitate the way the slates are placed, by drawing lines on the slate. Subjects of composition, as the French call them, come later, and lastly the child is asked to draw from memory to-day what he drew yesterday or the day before, from the slates or otherwise.

The conventional lesson is one of the strong points of the Geneva system as it is of that of France; as it is carried out after the same line it is unnecessary to describe it. I may say, however, that I heard a very interesting lesson on the umbrella. I happened to have with me; it was given by the head mistress of the Cuvage Infant School, and consisted mainly of eliciting information about it, by asking questions and suggesting replies.

The infant schools are open from 8 to 11, and from 1 to 4, the same as the Primary Schools, the number of pupils in a class is limited to 40, if it surpasses this number the teacher usually obtains an assistant. As in France, we find here separate class-halls, not one large room with three or four teachers; and this has the curious effect of making any one accustomed to Irish schools think there was no school being held at all in the place. There is a special lady inspector of infant schools, and as part of her duty she has to give suggestions in regard to teaching infants.

II., III.—*Advanced Kindergarten and Manual Training.*

In 1888, guided to a certain extent by the example of France, the heads of the educational system of Geneva introduced Manual Training as an obligatory subject into the Primary Schools of the Canton. This implies a great deal, as the teaching staff, the methods, the workshops, and the tools had to be, as it were, created. To carry out all this the State at the same time appointed M. L. Gilliéron as organizer and inspector of Manual Training, and to the skill, ability, and enthusiasm which he brought to the execution of his new task, is due the fact that Manual Training in Primary Schools is in a very flourishing state in the Canton of Geneva.

M. Gilliéron set about the work earnestly. He gave lessons in the subject himself to the teachers, who in many cases took kindly to the work from the beginning, and he opened workshops only where it could be conveniently done. The commune willingly supplied the necessary tools and instruments, and thus, having made a successful beginning, the rest was fairly easy. The principal difficulty consisted in selecting a method. As M. Gilliéron considered that this new subject of school life should be essentially education and not industrial—he was led to reject many things to be then found in the Paris programme as quite too industrial, and choose only those which could be considered as of wide application and useful as my calling. The idea of this new teaching should be educative, led him to reject the employment of the skilled artisan as being foreign to the ordinary idea of education, and as likely to frustrate the end for which the subject had been introduced into school life, viz., to fill up a want in the education of the child, supplying concrete examples of many of the abstract ideas he has to learn, and by putting the teacher in a position to draw his attention to the connection between two, while he is actually teaching him either. But how, asked M. Gilliéron, can this be done if the teacher does one part, and the artisan the other?—No, if Manual Training is to be used as an educational organon, it must be taught solely by the schoolmaster. Such in a few words being the ideas that underlie the working of this system in Geneva, let us see how it prospered. Little by little, sometimes by coaxing and sometimes by compulsion, it spread from the beginning, till in 1896 it was being taught in every school in the Canton with the exception of about a dozen country schools, and when I was in Geneva M. Gilliéron was able to tell me that most of these have now fallen into line, so that about 3,500 boys are now being taught Manual Work in this little Canton.

The method adopted for teaching it resembles the Paris method fairly closely, it is therefore unnecessary to describe it at any length, but I deem it well to give the programme of it in detail.

Programme of Manual Work.

1st Class.—Little exercises in plaiting, folding and weaving. Cutting and gumming coloured paper to form geometrical designs. Embroidering on thin paste board, little objects easy to form.

2nd Class.—Employment of a graduated ruler and a square cutting paper and cardboard. Combinations in coloured wools on pieces of cardboard. Construction of little cardboard objects.

3rd Class.—Construction of objects in cardboard and decorated by drawing. Little works calculated to facilitate the teaching of geometry and drawing.

4th Class.—Construction of objects in thick cardboard and covered with coloured paper. Cutting out the simplest bodies. Putting these bodies together. A side sketch or a drawing to scale ought to precede the making of each of these objects, and ought to be made in class during the hours of drawing.

3rd Class.—Notions on the most common tools. Study of the principal tools used in woodwork. Planing and sawing of wood. Making of objects. Nailed boxes and other objects without points. Making various objects from thick cardboard.

4th Class.—Development of the programme of the 3rd class.

On reading this programme and remembering the description I have already given of it, we easily see that it differs from the Paris method in the following points:—

- (a.) It makes useful objects from the first.
 - (b.) It makes much greater use of cardboard.
 - (c.) It confines its highest efforts to woodwork.
 - (d.) It is taught only by the master, who teaches the other subjects.
- To these may be added
- (e.) All the objects constructed are the property of the child.

If we compare it with the *Stahl* system, it will at once be seen to differ from that by the importance it attaches to drawing, and by the employment of paper and cardboard. It thus occupies a position intermediate between these two avoiding the extremes, as it were, of both, and selecting those parts which it deems most suitable to its own idiosyncrasies, and which has been found to be in keeping with its national life and aspirations.

We have seen how it was taught to teachers in the *l'après-midi*, well that method still continues; I was present when in Geneva at a lesson given by M. Gillieron to about 12 teachers, of whom three were mistresses. Owing to the fact that no certificate is necessary for the teaching of it—nay, it is necessary for the master to try and teach it whether he is himself able to execute the work himself or no—the teachers in training do not pay much attention to it, with the result that they have to learn it during their year of probation, and so it happened that most of those who attended on the day I was present were probationers. I shall explain the presence of the mistresses in the account of my daily visit to schools.

In conclusion, it remains to say that, as far as I am able to judge by what I saw, manual training in Geneva was a great success; the masters are zealous in the teaching of it and the pupils are pleased with it as being an agreeable change twice a week from the monotony of ordinary lessons. Again, the Geneva system is considered a success by other Cantons and the Canton of Tessin is now about to introduce it into its school. But there is a stronger reason for believing it a success. Eight years ago a Genevese schoolmaster showed that out of a hundred boys of from 13 to 14 years of age who frequented complementary schools, about 28 only were really learning a trade, the others were workmen, messengers, newspaper boys, &c., all positions, which it has been well said, end in nothing if it is not in discharging the individual with all serious occupation. Since the introduction of manual training, however, a sensible improvement has been seen from year to year, as the number of apprentices increases yearly. Without attributing this beneficial change altogether to the manual training of the schools, it is evident, as M. Gillieron contends, that the new branch has contributed greatly to produce the change. And now a word as to why manual training has succeeded in some places and not in others. It will be found, I believe, that its successful introduction and continuous working for any great length of time in any large town depends on the enthusiasm, not of the pupils, not of the teachers, but of the inspectors. Here, as elsewhere, it is true that the consumer makes the school.

With regard to bricklaying, string work, and basket-work, they may be said not to exist, as the Genevese believe in confining their attention to cardboard work

and to woodwork, and in doing them well. The teachers sometimes learn clay modelling, but it has not been introduced into the schools, for, although well calculated to produce deftness of fingers, courtesy of touch, and closeness of observation, it is considered unsuitable for Primary Schools, as it is difficult to maintain discipline in a modelling class.

IV.—Physical Exercises.

Gymnastics has been for many years an obligatory subject in Primary Schools, and there is a detailed programme of it for every class, both for boys and girls. There are no special teachers of it as in Paris, but there is a special inspector of it. In schools where there is a separate master for each class it is fully carried out, but in schools with only one master, or with a master and an assistant, it is not so closely attended to. In city schools there is a separate room for it, in which are found the objects suitable for these exercises, but more usually the exercises consist in leaping, marching, and in drill proper, as it is considered as a preparation for the future military training of the pupils. For some particulars about gymnastics in girls' schools see diary for November 8th.

V.—Drawing.

As will be seen by the programme of studies, drawing is an obligatory subject in both boys' and girls' schools; it consists of free-hand, geometrical, and model drawing, but shading from the flat is unknown. In the two highest classes pupils are given elementary notions of perspective. Exercises which are practised from the beginning are those in which the pupil is asked to draw from memory one day, what he drew in the ordinary way some time previously. An exercise also much practised for the first class is what I have already referred to under the name of "Composition." It consists in getting the pupils to repeat on a small scale, with appropriate joinings of their own invention, any design or drawing they may have just finished. In this way they learn to make nice designs for embroidery, or for decorating the sides of boxes, &c. It is considered by the Genevese as being calculated to give the children an idea of the beautiful, and of the simple way it is often produced, to encourage the children to be original in their work, while at the same time tending to develop the faculty of imagination. There is no brush-work of any kind taught in the primary schools of Geneva.

VI, VII.—Science and Agriculture.

The next two subjects of inquiry—viz., Science proper and Agriculture—are quite unknown in Primary Schools, but they form the principal raison d'être of the Secondary Rural Schools. A very interesting kind of science is, however, taught in all the classes of Primary Schools under the name of object lessons (*leçons de choses*), it is taught as part of the lesson of the mother tongue. To give an idea of its aim and extent, I append in full the detailed programme for the fourth and fifth class.

Fourth Class.—(1.) Man.—Notions on digestion, and on the movements of the limbs. Organs of life—Brain, heart, lungs, stomach, spinal cord, liver, and intestines. Hygiene advice.

(2.) Animals.—Study of some types characteristic of the different groups of mammals and birds.

(3.) Vegetables.—Study of some chosen types and of the principal organs of the body.

(4.) The three states of matter.

Fifth Class.—Notions of Natural History, development of the programme of the fourth class. Advice about health. Information about the principal industries.

(a.) Food industries.—Baking, confectionery, distilling, &c. (b.) Clothing industries.—Spinning, weaving, making of clothes, boots, &c. (c.) Building industries.—Materials employed and the different trades engaged in connection with building.

N.B.—In girls' schools one of the lessons every week is to be given in domestic economy.

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The study of science in the secondary rural school embraces the following subjects:—Physics, chemistry, meteorology, botany, and zoology. Much more attention is given to chemistry than to physics, as was evident from the fact that at the school of this kind I visited at Bernex—there were certain facilities for making chemical experiments, but none whatever for making experiments in physics.

This no doubt partly arises from the fact that it is easy to make chemical experiments, as the materials and apparatus can both be obtained cheaply. While, on the other hand, it is considered difficult to make physical experiments on account of the expensive nature of the apparatus which is thought to be necessary for the performing of these experiments. Now, I am of opinion that this is quite a false view of the situation, and I believe that it is engendered by the costly instruments always used to make experiments in properly equipped laboratories. A step forward in the proper teaching of physics will be made everywhere when the future teachers are put through a course of practical physics by the use of a set of instruments that can be purchased for £1 (say), and by turning household utensils to proper account.

The programme of physics in the secondary rural schools is the following:—

Boys.—Air and water from both a physical and chemical point of view. Chemical analysis of water. Principal constituent elements of plants. Relations of plants with air and water. Analysis of soils. Classification of arable soils. Absorbing power of soils. Improvements of soils. Soils. The different kinds of manure—vegetable, animal, and mineral.

The programme for girls is quite different, and as it is an interesting and instructive contrast, I append it also.

Girls.—General properties of bodies. The three states of matter. Constitution of solid bodies. Weight, specific gravity. Properties of gas. Atmospheric pressure. Barometers. Pumps, syphons. Heat and thermometers. Vapour—very elementary notions on its applications. Electricity— notions on its principal applications.

We must remember that the girls learn physics only while the boys learn botany and zoology as well, besides having special courses for the different subjects comprised under the heading of agriculture. And this brings me to the main characteristic of these interesting rural schools—the manner in which agriculture is taught in them. The subject is divided into the following parts, each of which is taught by a specialist in the subject, who however does not confine his work to one school, but who goes round from one to another of the eleven schools of this kind to be found in the Canton. His visits are determined at the beginning of the year by the Education Department of the State, and the days on which he is to visit any particular school are set forth on a printed time-table, which is sent to each of the schools at the beginning of the school year.

The following are the subjects taught, the programmes prescribed, and number of lessons per annum.

(1.) *Arboriculture*.—Choice of the best varieties of fruit to cultivate. Plantation of trees, and care to be given to the orchard. Different kinds of grafting; budding, pruning, and training (10 lessons).

(2.) *Market Gardening*.—Cultivation of the principal vegetables and choice of the most remunerative varieties. Growth of beans, both Lancel and French. The cultivation of the strawberry plant, choice of the best varieties for transportation and for the market. The Tomato. Rhubarb. Potatoes, quick, early, &c. Garden Frukose. Sowing; planting of vegetables (6 lessons).

3. *Flax Culture*.—Unnecessary to give details.

4. *Rearing of Cattle*.—Improvement of the race of domestic animals. Rearing; Weeding; Study of the "points" of horned cattle as to the indications they give of the value of these cattle (with practical demonstrations); First care to be given to domestic animals in case of sickness (with practical demonstrations) (5 lessons).

5. *Rearing of Bees*.—Conditions essential for a good wintering; Work to be done during the winter. First visit of the year; the most favourable moment. Series of work to be done up to and at the time of collecting the honey. Practical Exercises (4 lessons).

These courses are not only for the pupils of the secondary rural schools, but also for young persons of both sexes of more than 15 years of age who have completed the 6th course of the primary school.

To enable the programme to be usefully carried out there is attached to each of these schools an experimental plot. These plots are actually small, but the pupils are allowed to work in the school garden also, and have thus a fairly wide scope for experiments and observation. In the school garden they can also see the result of experiments undertaken in previous years by their predecessors. At Bernex, I saw in operation an interesting and useful practice. Each pupil when he goes to school is allowed to plant 10 or 12 young fruit trees at different kinds, and to graft others if necessary. These they watch and attend for the two years they remain at the school; when leaving the school they are allowed to dig them up and bring them home and plant them in their father's garden. In this way the Genevoise, who are at present giving much attention to the improvement of fruit trees, hope after a short time to spread both good trees and the knowledge of the right way of caring them throughout the country. The head master informed me that the boys take special interest in the results of their own labours, and are quite proud when they have been successful in grafting a plant or in any other operation, with the result that even those otherwise indifferent about their work begin to better themselves, not only at practical work, but also at their other studies.

Manual training is also given in these schools but it is quite different from that given in primary schools, as the following programme shows:—Notions on the putting together, the repairing, and the caring of the usual instruments of husbandry.

I may state, in conclusion, that, as far as I could judge from my visit to Bernex at a time of the year so unsuited for such a subject, this method of teaching agriculture must greatly benefit the country, both directly and indirectly, and I may also add that I saw no kind of school on the Continent which might with suitable modifications, be introduced with so much profit into Ireland.

The education given in it is well calculated to open the minds of the peasant and the farmer to everything that could interest them in their daily life, making them see clearly where otherwise they might see nothing; training them while still young to perform the daily labours of rural life with interest and intelligence, and thus begetting in them a love for country life, which bodes well for the future prosperity of their native land. What we have to recognise is that the town, with all its attractive appearances and outward show, is daily drawing in every country in Europe, the peasant from the field, the cultivator from the farm, and is so far diminishing the native production of the country by draining it of its workers. How to stop this drain is, in France and Switzerland as well as here, the question of the hour, and here we not in these rural schools the best solution of the question yet offered? These schools are for the many, not for the few; for the young, not for the old, and they are to be found within easy reach (14 miles in Geneva) of every pupil, and thus satisfy all reasonable requirements.

VIII.—*Needlework.*

In infant schools we saw that an introduction to some of the easier stitches was given to the children by teaching them to sew on canvas. In the Primary schools this subject is continued from the lowest class to the highest, but nothing beyond plain sewing is as a rule attempted. There is in the highest classes a little fancy work done, if indeed feather-stitching and French braiding come under that appellation. Red thread is always used, as it is easier for the pupils to see how they are doing the work, and also easier for the mistress and inspector to examine in. The programme of this subject is very fully detailed, and the different kinds of sewing, etc., are to be found in the text book sanctioned by the authorities.

Knitting and darning are two subjects to which special attention is also given; the programme for the first is fully detailed. They have a way of darning stockings which I never saw practised in Ireland, and which consists of knitting up the holes, so that it is not so easy to see the darn as it is in this country.

All the materials are supplied by the State, the finished articles belong to the child.

The teaching of all kinds of needlework is, when possible, collective, and it is recommended to show to the class beforehand a finished example of what they are about to undertake.

IX.—*XL.—Cookery, Laundry, Housewifery, and Domestic Economy.*

These are subjects embracing the whole round of duties of a woman's life, and as such are to be learned only in special schools and by experience. As far as possible they are taught both practically and theoretically in the Ecoles Ménagères and in the secondary Rural schools, but nothing is done in the way of teaching them in the Primary schools, except the giving of a few lessons a month on domestic economy instead of object lessons in the last three years of school life. The theoretical part of domestic economy taught for an hour a week in the housewifery schools is given in the following programme:—First year, principles which ought to direct the mistress of a house.

Duties.—Chances of a house—setting up and darning. Cleanliness and airing. Heating and lighting.

Procurement.—Choosing and saving.

Clothes and linen.—Notions on the different tissues, and their uses. Sweeping and ironing.

Second year.—*Hygiene.*—Elementary notions of the functions of life. Digestion. Circulation, breathing. Hygiene of the dwelling, of clothes, of the night of the skin. Corporal exercises. Fatigue and repose. Care to be given in the case of accidents, or illness, to children. Precautions to be taken after a contagious disease.

There is no cookery taught in the Primary schools of Geneva, this subject being considered too difficult for children under thirteen years of age, but it is taught in the two Ecoles Ménagères in both a theoretical and a practical manner. The following is the programme of the first part:—

Principles which underlie nutrition. Foods and their nutritive value. Purchasing. Different ways of preparing food. Various receipts. Preparation and cooking of a meal according to a fixed estimate. The cost of utensils. Method of keeping a housekeeper's book. Written accounts of the cooking done.

Three pupils of the first year and three of the second go together for three hours on one day of the week to the kitchen. The three younger girls prepare the food, while the three older ones, under the instruction and guidance of the professor, cook it. When cooked they are asked to parake of it on payment of 2d each, which almost covers the cost of the uncooked materials. The object of getting them to parake of the food in the school is to teach them the manner in

which a table is laid for dinner and to give them an opportunity of learning the usual conventions of social life.

The manner in which the dinner was cooked has to be written out at home and brought the day after by the pupils to see if they paid proper attention to the instructions, &c., of the professor, and to the way of cooking it. This account is examined and corrected by the professor, and the pupils then write down the corrected receipts for each of the dishes in a notebook kept for the purpose. All the materials, &c., are, as in case of other subjects, supplied gratuitously by the State—a name Geneva sometimes likes to give herself.

Theoretical laundry is taught in the secondary Rural schools, as well as in the Ecoles Ménagères. Two hours a week are given to it.

The following is the programme:—

Washing.—Different processes used to-day—operations to which they give rise.

Water, soap, lathering, rinsing, washing—reducer of bluing and hanging clothes. Case in which soap-ling can replace the lather. Articles that can be put in press. Washing woollen and coloured stuffs. Practical advice.

Ironing.—First year.—(1) Ironing waterwashed linen. Preparation of the table—manner of using iron; its heat. Damping and folding table linen, &c.

Second year.—(2) Ironing linen prepared with raw starch. Preparation of raw starch. Starching a shirt, ironing, folding. Collars and collars.

(3) Ironing clothes prepared with boiled starch. Preparation of boiled starch. Shirts, &c.

(4) Ironing laces and embroidery. Starch and sewing costumes.

(5) Ironing woollens.

In the secondary rural schools the pupils bring to each lesson linen already washed; the mistress points out the different pieces at the previous lesson in order that they may be as nearly alike as possible for all the pupils. In the Ecoles Ménagères, however, the pupils wash the linen in the school, and mend the worn parts before using it.

CANTON OF VAUD.—GENERAL SKETCH.

In Lausanne, the capital of Vaud, there is a University, and we consequently find the three kinds of education, higher, secondary, and primary in Vaud as well as in Geneva. There are three kinds of Primary schools—Infants' schools, Elementary Primary schools, Advanced Primary schools. The latter are to be found only in towns and large villages. The length of the school week is thirty hours made up of four days of six hours each, and two days (Wednesday and Saturday) of three hours each. Education is compulsory, and free from seven to fourteen years of age. At the head of Education is the head of the Education Department. Under him we find *directors* of schools, *inspectors*, and a special *inspector* of infant schools. Inspectors do not examine as with us, they inspect the schools after the French style. The people of Vaud do not care for inspection, and consequently inspectors are employed only in cases where it would not be convenient to have a director. The local authorities decide the question of having or not having an inspector, and so we find directors where they can be supported by local funds. The *director* in Vaud is a *local inspector* who devotes all his time to looking after the schools of all kinds, primary and secondary, private and public, boys' and girls' of the district where he lives. He must have received a classical education and must understand the management of schools. He has to visit every school once a week and examine it fully once every three months.

The Training of Teachers.

There are two training colleges in Lausanne, one for boys the other for girls. The pupils of each of-

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them live in the city and attend lessons only in the colleges. There does not seem to be much direct supervision exercised over them, but the pupils generally give satisfaction by their conduct.

The examination for entrance is competitive, and embraces the following subjects:—Reading and explanation, grammar and analysis, composition and spelling, arithmetic, oral and written, geography, and history of Switzerland and Europe to the end of the eighteenth century. For twenty-eight places in the boys' college, fifty-one pupils competed in 1895. The pupils have also to undergo a medical examination, but year two female pupils were rejected. Pupils receive subsidies from the Communes and from the State according to the social position and wants of their parents. These subsidies vary from £2 10s. to £16 a year. Of the 350 pupils in the two training colleges all but 15 have received subsidies. The average value of each of these subsidies for each year was £8 7s. 6d. The pupils who receive them subscribe an agreement to teach in a primary school for three years.

The Training College for boys is divided into four classes, and the course lasts four years.

In the Girls' Training College there are three distinct certificates, (a) for Primary Schools, (b) for Kindergarten Schools, (c) for Workwomen.

The first course lasts three years, the second one and the third a few months.

To be admitted to these Colleges the boys must be 15 years and the girls 16 years old.

The subjects taught in these Colleges and the number of hours a week are as follows:—

	1st YEAR	2nd YEAR	3rd YEAR	4th YEAR
1. Pedagogy,	—	1	2	2
2. French:—				
(a) Reading,	3	3	2	2
(b) Grammar,	3	1	1	1
(c) Analysis and Parsing,	3	2	—	—
(d) Composition,	2	2	2	2
(e) Literature,	—	—	1	2
3. Mathematics:—				
(a) Arithmetic and Algebra,	4	2	2	1
(b) Geometry and Mensuration,	—	2	2	2
(c) Book-keeping,	—	—	1	1
4. Geography,	2	2	2	1
5. Cosmography,	—	—	—	1
6. History,	2	2	2	2
Oral Instruction,	—	—	2	2
7. German,	5	4	3	2
8. Physics,	1	2	—	—
9. Chemistry,	—	1	2	—
10. Natural History,	1	2	2	—
11. Handwriting,	3	2	2	1
12. Sewing,	2	2	2	2
13. Yarns (boys),	1	1	1	1
Flax (girls),	1	1	1	—
14. Drawing,	2	2	2	1
15. Manual Training (boys):—				
(a) Cardboard Work,	2	—	—	—
(b) Modelling,	—	2	2	—
(c) Woodwork,	—	—	2	2
16. Agriculture,	—	—	—	2
17. Needlework (girls),	5	5	5	—
18. Domestic Economy (girls),	—	1	1	—
19. Gymnastics,	2	2	2	2

The following is the programme of the important subject of *Pedagogy* for boys.

SECOND YEAR'S PUPILS.—ONE HOUR A WEEK.

Elementary Course of Pedagogy applied to Education.

General idea of *Pedagogy* applied to *Pedagogy*. Importance and necessity of the study of *Pedagogy* for the educator. Different kinds of psychology—psychology of childhood and its quite recent developments.

Theories on the nature of the faculties of the soul. Consciousness and unconsciousness. Sensation, Perception. Corporal sensations. The senses and external perception. Education of the senses.

Intellectual Faculties.—Intuition, representations and their reproduction. Association of ideas and its laws. Interest and insight. Attention. Memory. Imagination. Abstraction and generalization. Judgment and reasoning. Intellectual education.

Feelings and Sentiments.—Moral sensibility. Personal inclinations. Praise, self-love. Love of property. Egotism. Family feelings. Social and patriotic feelings. Feelings of truth, of honesty, and of goodness. Religious feelings. Moral education. Training of the moral faculty.

Faculties of the Will.—The will and its limits. Free will. Education of the will and of character. The problem of educative teaching.

N.B.—This education takes an elementary form; it deduces the laws and phenomena of psychology from a series of observations drawn from the field of experience of the pupils.

The notions of psychology once grasped, indications on the manner of taking advantage of theoretical knowledge, as far as teaching is concerned, follows immediately. After each important chapter a direct application of this knowledge to the practice of teaching is made.

THIRD YEAR—TWO HOURS.

Law of Teaching. Scholastic Organisation and Administration.

Method and methods. Utility of methods. Statement and question. Analysis and synthesis in scientific pedagogy. Historic sketch of methods of teaching. Collective teaching.

Study of the methods or processes applicable to each of the branches of the programme.

Scholastic organisation.—Different kinds of schools and their adjuncts, such as museums, libraries, &c.

Pedagogical organisation.—Classification of pupils. Plan of studies, &c. Examination and promotion of pupils, &c.

Discipline.—Discipline in general. Material and moral conditions of discipline. Higher aim of discipline. Emulation, rewards, punishments.

FOURTH YEAR'S PUPILS.—TWO HOURS.

History of Pedagogy.

1. Glance at the History of education in the Old World and the Middle Age.
2. Western Education in XVI. century.
3. Teaching Orders—Jesuits and others.
4. Education in the XVII. century.
5. Philosophers in the XVIII. century.
6. Modern Pedagogy—Pestalozzi, Fr. Gerard and Froebel.
7. Scientific Pedagogy—Herbart, Spenser, and Bain.
- Theory and Practice of Education in XIX. century.

Analysis of one or more of the following works:—

- The Education of Girls, by Fessenden
- Treatise on Studies, by Rollin.
- Logic on Education.
- Rousseau's Emile.
- Spencer's Education and some others.

The course is for girls in the first and second year. In the third year the course is also much the same, but more attention is given to the part women have taken in education.

Principal representatives—Madame de Genlis, Miss Edgeworth, Madame Guibet, Madame Pope-Carpentier, and others. Education of women according to Dupanloup.

Work recommended:—

- Compayre.—Course of Pedagogy, Theoretical and Practical Psychology applied to Education, Pedagogical Organization, History of Education.

Rousslet.—Pedagogy useful in Primary Schools. The laws, the rules, and the plan of studies in the Primary Schools of Vaud.

The foregoing are obligatory; there is moreover a list of eight works which are recommended.

Practical Pedagogy

The practical part of the education is given in the progressing schools, both of which are mixed, as being the type observed usually found in Vaud. The junior school has children from seven to nine years only, the senior from nine to fourteen, divided into two courses, middle and higher. The number of pupils in each is about 30. The method of training resembles that followed in France to a great extent, except that in Vaud students of the last year only go to these schools. The student who is to give a lesson is told the subject of it two days beforehand; he draws out a plan of the lesson, submits it to the master who corrects it, and then the student teaches the lesson in the presence of the master, who is always an experienced master and acted for his success as a teacher. The lesson finished, the master criticises it, points out defects, &c., and thus each lesson is corrected twice. The students go to these for a week at a time to these schools.

All this is, however, not enough; there yet remains the model lesson; this is given as follows:—One of the pupils is selected once a week to give a lesson on an appointed subject to the children of the Primary School before his comrades, the master of the school, and the Director of the Training College, who is always the Professor of Pedagogy. This student has to write out in advance the lesson, which is examined and corrected if necessary by the master and Director some days before it is to be given, so as to enable the students to become familiar with the subject, &c. Another student is appointed to criticise the lesson. The first student gives the lesson in due course, and every student of the class has to take notes during the delivery of each passage as he deems worthy of remark.

The following week the criticism of it takes place. First a pupil is called on to give an account of the meeting, then he who gave the lesson is allowed to offer any remarks he wishes on the way he himself delivered his lesson. After him the student appointed to criticise states everything good and bad he found in the practical exercise of his comrades. Then some of the other pupils are called on to make their observations, and finally the master of the school and the Director give their impressions, and point what should have been done in the parts of the lesson that were not a success, so as to render it more efficient.

Towards the end of the year the lessons are prepared by all the pupils after receiving instructions from the master, and later on without instructions, let us then draw to see which of the pupils is to give the lesson. In this way the little practice in actual

teaching is to a great extent compensated for, as the future masters in this way learn more than in two weeks' ordinary exercises, since they are obliged to give themselves a rational account of the psychological conditions that ought to clothe a lesson if it is to be given with profit, and they hear from two of the best authorities on the subject valuable remarks and instructions; while the presence of the Director himself gives an air of importance to this lesson not otherwise easily obtained.

I was informed that the best results have attended these model lessons.

Prize Essays

Another means of educating the future teachers has been found in the writing of short treatises or essays on the subjects taught in the College. If the essay is considered worthy of a prize the student is examined orally to see that his knowledge of the subject is as thorough as the essay indicates. In the latter case he is awarded a prize, according to the subject and to his year in the College. In 1893 there were 48 essays presented; 29 got first class prizes and 18 got second class prizes. The amount distributed was about £60.

The benefits claimed for these essays are:—First that they teach a pupil to think the subject out conscientiously, and to arrange the different parts of it in logical order; secondly, that they tend to give precision and order to the manner of presenting a subject to pupils later on; thirdly, they afford the learner pleasant digressions from the daily round of class work; and fourthly, that being voluntary they tend to engender in those who undertake them a true spirit of work, which augurs well for the future success of the student as a teacher, and they are at the same time, a great stimulus to active and spontaneous study.

As the present Director of the Training College, M. Guex, well says, there is only one thing to be feared for the teacher and for his pupils, and that is stagnation, laziness, indifference about learning, then which nothing more certainly produces mediocre teachers.

To give an idea of the extent and nature of these essays I here give the subjects of some of them:—

1. Analysis and examination of the work *How Gertrude attracts her Children*, by Pestalozzi.
2. What are the ideas of the Emile of Rousseau which we can make our own even to-day, and which are applicable to the contemporary school?
3. Analysis and criticism of the work *Education*, by Spencer.
4. A historical novel of Florence in the fifteenth century, or of Athens in the time of Pericles.
5. A literary study on Comedy from the time of the Renaissance to Molière exclusively.
6. Work on the article and its employment, especially from the historic point of view.
7. Historical grammar and philosophical or etymological grammar.
8. Study of Transversals. Harmonic division of a right line. Harmonic pencils, Pole and polar. Properties of the complete quadrilateral. Pascal's and Brianchon's theorems. Centres of similitude of two circles, also of three circles.
9. Study of continued fractions, their application to indeterminate analysis and to the solution of the exponential theorem.
10. The liberty of the Press and its necessary limits.
11. An exposition of the rights and duties of a citizen.
12. An exposition of the different kinds of proportional representation.

Principles of Education in Vaud.

The fundamental aim of the training given in the Training College in Lausanne is shortly *educative*

APPENDIX B
Mr. B. B. B.
Drawing &
Reports

teaching. To conduct the pupil from the intuitions of the senses to abstract conceptions, to consider intuition as the sole means of elementary instruction, never to give formulas or rules if they do not immediately flow from the facts, appear to them to be principles absolutely evident. This is the reason, they say, why they adopt the five psychological stages advocated in Herbart's method, perception, retention, association, comparison, and application, while at the same time they are quite prepared to depart from it whenever the too strict adherence to it might lead them too far a field.

Inspection of Training College.

I have already stated that the Vaudais do not like Inspectors; this principle is forced to guide them in the Training College also. There is no external inspection of them, but they are well looked after all the same. The Director of the Young Men's College inspects the work of different masters at least once a year; he visited the classes about 15 times last year, as I saw by a note-book he showed me; besides these visits he sees how the work is being done from the tri-monthly written examinations, which he controls, and which, carefully discussed, are also a check on the master's work. Lastly, one student of each class is told off to write down in class the heads of the different parts of each subject taught during each lesson; and M. Guex showed me the head of the different parts of his last two or three lessons in Psychology to the third class. What is done in this way in the Young Men's College is also done both by the Director and the Mistress of Studies in the Young Women's College, so these colleges may be said to be fairly well inspected, although not so independently as in France.

Promotion of Students

The students of the Training College are promoted from one class to another at the end of the year, not as the result of an examination, but on the vote of the teaching staff, as to the manner the pupil worked, the way he wrote his exercises, the attention he paid in class, and the manner in which he answered at the monthly written examination. This system has been found to be productive of a much more regular and continuous style of work than the yearly examination, while it tends to engender in the student's mind that in teaching it is not so much knowledge as education which is to be aimed at. Last year all the pupils of the young women's college were promoted, in the young men's 32 out of 36 were promoted from I. Class to II. Class, 28 out of 30 from III. to IV., and 32 out of 36 from IV. to V., or on the average eight per cent. failed to get their class.

Examination for Certificate

This examination is held at the end of the fourth year, and is at present the only examination the student has to undergo to become a teacher. If it is passed in a satisfactory manner, the student becomes a teacher forthwith, but if it is not passed satisfactorily the student is allowed to teach, with the proviso that he will present himself again for examination within the next three years. Should he not succeed in passing within that time, his name is erased from the list of teachers. The following table gives the results of this examination for 1896—

	Candidates	Definitely.	Promoted Provisionally.
Men	32	16	11
Women	39	37	2

Once definitely admitted as teachers, their pay is regulated somewhat after the French system. They have also, as in France, to assist at conferences of teachers under the presidency of the Director or the Inspector

I.—Kindergarten.

These schools exist as State institutions in Vaud only for the past two or three years, and as children are not obliged to go to school till they are seven years old, attendance at them is optional. As their utility is now fully admitted, and as it is intended to establish as soon as possible kindergartens throughout the Canton, there has been opened in the Young Women's Training College a special course of one year's duration to prepare teachers for these schools, and there is also a fully organized kindergarten attached to the College as Practising school. The head mistress of this school has been brought from Geneva to introduce the system of that city into Vaud. The students spend most of their time in the kindergarten, but they receive, besides, instruction on the following subjects:—

1. Needlework and the pedagogy of woman's work.
2. Rules for kindergarten, theoretical and practical.
3. Psychology of childhood and the elements of pedagogy.
4. French.
5. Simple notions of human anatomy and physiology.
6. Elements of geometry and geometrical drawing.
7. Artistic drawing.
8. Singing.

II. III.—Advanced Kindergarten and Manual Work

There has been in Switzerland for the past twelve years *La Société suisse pour l'extension de l'enseignement manuel obligatoire* (Society for the extension of Manual Training). This Society organizes vacation courses for the teaching of manual work, the Swiss Confederation votes a biennial sum towards the expenses of these courses. They are held in a different Canton every time, the one for 1894 was at Lausanne, for 1896 in Geneva, and the one for 1898 will be held in Zugun in the Canton of Tessin. The teachers of Switzerland are invited to attend these lessons, and their expenses are paid out of the funds of the Society. There is an elementary course lasting eight hours a day for a week, and an advanced one which lasts the same number of hours for three weeks. In 1896 as many as 117 teachers followed the elementary course, the programme of which was the same as that of the first three years in the primary schools of Geneva, and as many as 166 followed the advanced course, which consisted of wood and iron work, chip-work and modelling, together with a special section given for the first time to the making of objects in cork, glass, and metal useful for giving object lessons, and lessons on physics in primary schools. This has been considered by many a most useful innovation, and one destined to make manual training most popular with the teacher.

As an indication of the spirit in which manual work is taken up in Switzerland I think it will to give here the following resolutions, duly proposed and carried at a general meeting of teachers, held in Bern in 1895—

- I. The teaching of manual work ought to begin in the first year of the primary school, and ought to be given regularly during the whole school year.
- II. It is the master of the class who ought to teach this branch to his pupils and not a special master—were the latter even a school-master.
- III. A special course of training is indispensable in order to enable the teachers to initiate themselves into the making and the employement of objects which belong to manual teaching.

These subjects have not as yet been made obligatory in Vaud, but as there has been, since 1887, an intention of introducing them into the primary schools, they have been taught in the Training College for the past ten years by a special professor, who is an elementary teacher. Much progress has, however, not yet been made with them, owing to the want of proper accommodation for working at them, and even at present the woodwork is backward for want of suitable workshop. The educational authorities are fully alive to the importance of the work, but the Municipality is slow to incur expense for purposes, the necessity of which they do not understand. Teachers already

trained have an opportunity of learning this work at the vacation classes already mentioned.

Much more attention has been given to these subjects since the visit of *Le Société Suisse* to Lausanne than was formerly the case, and greater views obtain as to their role in school life, for we find the following statement in the College report for 1894:—“Manual training, as understood in this College, forms a part of general education; it is not an apprenticeship to one or more trades, it does not aim at practical or immediate utility, but at the development of individual aptitudes.”

E. J. HUGHES-DOWLING.

SUPPLEMENT TO THE FOREGOING REPORT.

DIARY OF MR. HUGHES-DOWLING'S WORK IN FRANCE AND THE FRENCH-SPEAKING CANTONS OF SWITZERLAND.

Mr. Hughes-Dowling's Diary.

HIGHER PRIMARY SCHOOLS.

To enable the reader the more easily to understand the nature of the different schools of this kind visited by me, I here give a list of the classes of Higher Primary Schools of France, and add a few words to show their distinction. Before doing so, however, it is well to remark that all these schools are distinctly primary in their nature and constitution, although some of them are advanced in their studies and pursuits. The pupils that frequent them have, in the great majority of cases, passed through the Elementary Primary Schools, are the children of artisans and small shopkeepers, &c., and are between twelve and a half and seventeen years of age.

LIST OF HIGHER PRIMARY SCHOOLS.

- I. Higher Primary Schools (properly so called).
- II. Technical Higher Primary School.
- III. Schools of Practical Industry and Agriculture.
- IV. These National Technical Schools.

These schools are distinguished from one another in France by the division of the school time and by the Minister under whom they are placed.

I. The Higher Primary Schools, properly so called, are but the advanced classes of the Elementary School, and differ little from the superior course of the latter in the first year. Afterwards these schools are divided into different sections and the work becomes more or less specialized according to the future calling of the pupil.

In all the sections of these schools the number of hours a week given to the different subjects of study is thirty, and for each of the sections found in them the following table gives for the second year the subjects taught and the hours a week given to each of them.

HIGHER PRIMARY SCHOOLS (PROPER).

General Division of Time, Second Year.

SUBJECTS.	Elementary Reading.	Scripture Studies.	Teaching Method.	Manual Work.	Ornamental and Drawing.	Not Prescribed.
General.	15	8	8	4	5	—
Industrial.	6	8	4	4	5	7½
Commercial.	11	8	14	2	8	4½
Agricultural.	6	11	14	6	3	3½

The subjects and hours for the first year are the same for the four sections as those for the second year in general section, in the third year there is a little more specialization than in the second.

This table shows how much these schools differ from one another, according as the local circumstance demands distinct courses; it is quite rare to find more than two sections at work in any one school.

The Higher Primary School, Grenoble, is an example of this kind with a general and commercial section, while the one at Vaulx is interesting as being a school of this kind having an agricultural section. These schools are all under the Minister of Public Instruction.

II. The (technical) Higher Primary School differs little from the industrial section of the foregoing; they are under the command of the Minister of Public Instruction and of Commerce. There is a tendency to do away with this class of school and to merge it either in section I or II.

III. The Schools of Practical Industry and Agriculture have been formed out of pre-existing Technical Schools within the past few years and have been placed under the control of the Minister of Commerce. The pupils pass almost the whole day at the school, half the time in the workshop the other half being taken up in literature and science classes and in study. The number of hours a week the pupils are engaged being as many as fifty-seven. As can be easily inferred from the length of time spent in the workshop, they are in reality apprenticeship schools, and send out pupils ready to perform a man's work. There are about twenty of these schools in France, Vauxanton School, Grenoble, is a good type of these schools.

IV. The *Écoles Nationales professionnelles* resemble the practical schools, but the work done in them is more fully developed and of greater variety. Vaulx is the type of these schools visited by me.

THE DEPARTMENT OF LIRE.

Before giving the diary of my visit to this part of France, selected for me by the Branch Director of Primary Education, as being typical of a Southern Department, active about educational matters, it may be well to give a few statistics to show the state of primary education in it. The latest figures available are for the year 1895.

APPENDIX B.
IV.
Ms. Hughes-
Dewling's
Diary.

The area of Lisle is 3,200 square miles, or one-tenth the size of Ireland, and its population is 500,000, it is divided into 563 communes, and in them we find—

- 6 Higher Primary Schools
- 11 Elementary Primary Schools with a complementary course
- 1,563 Elementary Primary Schools.
- 235 Infant Schools and Classes.

Of the six Higher Schools four are for boys and two for girls, and of the eleven schools with complementary standard six are for boys and five are for girls. In those seventeen schools there are 794 pupils who are doing work higher than that done in the Elementary Schools. Of the 1,563 Elementary Primary Schools, 502 for boys, 492 for girls, and 347 mixed, are public, and 90 for boys, 219 for girls, and 3 mixed, are private. All the public boys' schools are under lay teachers, while 116 of the girls' and 4 of the mixed schools are under religious orders. Of the private schools all are under religious orders except 2 boys', 11 girls', and 2 mixed schools.

Teachers.

To teach the 1,560 schools 3,814 masters or mistresses are employed. Of these 961 are lay masters, 853 lay mistresses, and 264 masters and 758 mistresses are in religious orders. The latter are as a rule found in private schools, yet we find 234 lay members of religious orders teaching in public schools.

Of the 629 head masters of public schools—

- 1 is a Doctor of Science.
- 1 is a Bachelor of Arts.
- 7 have the Diploma of Professor.
- 60 have the Higher Brevet.
- 566 have the Lower Brevet.
- 256 have the Certificate of Capacity.

Of the 618 head mistresses in public schools—

- 2 have the Diploma of Professor.
- 91 have the Higher Brevet.
- 509 have the Lower Brevet.
- 18 have only a permission to teach.
- 170 have the Certificate of Capacity.

SCHOLASTIC POPULATION ACCORDING TO AGE.

People	Boys	Girls	Total
Under 6 years of age, .	4,377	4,870	9,247
Between 6 and 13 years of age, .	35,459	33,095	68,554
Over 13 years of age, .	6,134	4,604	10,738

According to kind of School

	Public,	Private,	Total
Boys	35,857	25,584	61,441
Girls	8,143	18,955	27,098

The number of boys learning manual work is about 500.

Besides providing schools for young persons great efforts are made to educate adults, and to enlighten them by popular meetings, conferences and public lectures.

The following figures refer to the winter of 1895—

1. For Men, 132 Lectures, &c.,—	2,637	Anditors
2. For Women, 22 " " "	386	"
Total, 154 " " "	3,023	"

There are 642 libraries attached to Primary Schools containing 82,712 volumes with 76,000 loans. There are forty-three libraries for teachers containing 22,125 volumes, but the number of loans is so small that it is not given, and the academy inspector has to complain of the lack of interest in educational matters displayed by the teachers. New books are added to these libraries every year at the expense of the Department.

Oct 30th.—Visit to Young Women's Training College, Grenoble.

This college is situated on the outskirts of the town, and well suited for its present purpose. It consists of the training college proper, an infant and a primary school as practicing schools. I was kindly received first by the lady bursar and afterwards by the lady director, both of whom gave me much information concerning the working of the college, which is incorporated in the joint report. I saw the second and third years' pupils at lesson as coming out and making up. The article in hand was a loose fitting morning jacket. Some of them were engaged mending their own clothes, which is obligatory in this college. There is only one lay figure in the college. I found the first year's pupils at a lesson in geometrical drawing. It consisted of drawing the letters of the alphabet after a sketch on the blackboard, those who had finished were adding a scroll and their initial after designs of their own. The work in both the classes was well done. The professor of drawing is a lady, as indeed are all the professors in Young Women's Training College, except occasionally, of psychology and pedagogy, for which a male professor is engaged. The lady director of Grenoble, as usually happens, teaches these subjects herself. I next visited the cookery class and found only two young cooks employed, preparing the materials for eight of their companions and themselves. They were in a small room fitted up like an artisan's kitchen, and were carrying out the instructions and directions of the professor of cookery who is also the lady-bursar. The dinner consisted of pot-au-feu, omelet, and pears; as it was only at the beginning of the lesson, I could not judge of the result, but I returned afterwards and tasted each of the dishes and I found them well cooked, particularly the omelet.

This lesson is given to two pupils in turn, six times a week, and as there are sixty-three pupils in the school, each pupil's turn comes round in about five weeks time, and thus she gets eight lessons a year in her course of three years twenty-four. This method has been found to give satisfactory results, as the pupils get individual instruction and do every thing themselves.

I was next shown the nursing room. It is also small, capable of accommodating six students. The pupils' linen is washed for them, but they wash it for themselves in batches of six. I was shown a phylum hall, in which there is a fine collection of instruments. In another room I saw a collection of objects for teaching natural history. I was also shown out of the window of this room the public botanical garden which adjoins the college, and where the students have a good opportunity of studying practical botany. I was next conducted through the dormitories, and explained the lessons the pupils get in practical house-wifery and house-cleaning. They have to spend about an hour every day at work of this kind. Every thing I saw very neat and tidily settled up. Great attention is given to hygiene, and one thing I may mention as worthy of imitation—the girls leave their outside dresses and jackets hanging in a freely ventilated room during the night. I saw the pupils of the third year going through a lesson in gymnastics, it was being given by one of their companions as a training in the art of teaching it later on to her pupils. It consisted of rhythmic movements calculated to give freedom of motion and grace of movement to the students.

From the Training College I passed into the Primary Practising School. There were about thirty-four pupils present, this school consists of a preparatory, a primary, and a middle course, and in this a typical school of the department. Besides the headmaster two pupils from the Training College were present—one of the second year's class and one of the third year's. The latter was giving a lesson on drawing and geometrical figures to the whole school, while the mistress and the second year's pupil were helping the little ones to execute the drawing—a simple rectangle divided into triangles and a parallelogram by cross lines asymmetrically drawn. Thus finished, there was a division of the school, the pupils of the middle course were given over to the advanced student for a lesson in reading, the mistress and the other pupil took the rest of the children into another classroom for a lesson on history, which I was told consists of anecdotes, &c. I now paid a visit to the infant school and found two assistant teachers and two students. The most advanced class consisting of about twenty children, were at a picture lesson out of a book with nothing but pictures in it. It was being given by the third year's pupil, and consisted in asking the children to tell what each person and thing in the picture represented, and then asking them to explain what the whole picture represented. It was most instructive and was well given, the children taking much interest in it; such lessons might with profit be given more frequently than they are in Ireland. Before leaving the Primary School I was shown the *coloré de relecture* (circulating copy-book), and the part it plays in the life of the school was explained to me.

Nov. 1st.—Visit to M. Clère, Inspector of Primary Schools, Grenoble.

I called on M. Clère by appointment, he received me most kindly and gave me much valuable information about the schools, &c., of Grenoble, most of which is incorporated in the general Report. He also gave me his report of last year about these schools, and from it I take the following as being calculated to show the efforts being made in France for the education of those who have left school.

There are special evening classes for apprentices (boys) from 6.30 to 8 p.m. The classes are divided into three parts, and follow mainly the programme of the middle course of the Primary School. The number on the roll for 1895 was 156, and the average attendance 95. There is another class for the girls, but it takes place from 11 to 12.15 in the day time. The numbers for it were 25 on roll and 15 is average attendance. He gave me a typical time table of the Primary Schools of the district. I hand in a copy, noting, however, that there are always two reading lessons in the day, one a reading lesson proper and the other a lesson in explanation.

Besides the foregoing there are also given during the winter months what are called revision courses, by means of magic lantern views. They are given to the boys by two of the masters, and to the girls by a mistress. There were eight sessions for history, eight for geography, two for natural history for advanced pupils, eight of history for the middle course, and five of history of the elementary course. The pupils take great interest in them.

As a completion of the gymnastic course, the children get a bath once a week in summer, and it has been found as useful from the point of view of cleanliness as of health.

Nov. 2nd.—Visit to the Young Men's Training College, Grenoble.

This college is situated about a mile and a half outside the city, in a thinly-populated place. It is an old building, not well suited for its present purpose. As is usually the case, the director is an ex-inspector

of Primary Schools, and is about fifty years of age. He received me kindly, and patiently explained the working of the college to me. The second year's pupils were at woodwork, and the third year's at iron-work, in a large workshop well lighted and suited for the purpose. These two classes are always taken together for manual training to economise time. The work and instruction was quite the same as I saw in the Young Men's Training College in Paris, except that turnery was done here. The students were all quite busy, and had that animated and pleased expression I invariably saw everywhere I found the pupils engaged in manual work. Pupils and masters, I was told, like this work, as it is an agreeable change from ordinary school work. I was shown the modelling and the cardboard work. The head master told me that one of the causes of the failure to introduce hand-and-eye training into the provincial schools arose from the neglect to teach these elementary subjects to the teachers in training. I was shown the physics hall, in which there is a fair collection of instruments, somewhat old, however, and apparently not in too good repair. The pupils do not make any experiments themselves. I saw the chemistry hall next, and found a much more real state of things here, as attached to it is a large hall, in which the pupils perform chemical experiments. This, I was informed, was usually the case in France. There is a fine room for gymnastic exercises, with the usual furniture of such rooms.

My next visit was to the school garden of about three acres, and an experimental plot of about the eighth of an acre. The latter had stakes at one end, representing the results of an experiment on manures after the manure of M. Leblanc. They seemed to have been quite successful, and the director told me the pupils take great interest in them. In this plot, also, were a number of vines, on which grafting experiments had been performed. This is a branch of agriculture to which great attention is naturally given in France, the pupils of the third year present themselves for examination in grafting before leaving the college. Last year nineteen out of twenty students were successful, and obtained the certificate of duly qualified *grapevins*.

As already stated in the general report, great efforts are being made at present to extend the teaching of agriculture in elementary schools, and renewed attention is being given to it in training colleges. It is taught in the latter, both theoretically and practically, to the pupils of the last two years, and the Professor of Chemistry and Physics is requested to consult with the departmental Professor of Agriculture, so that the teaching of the former may be directed to the principles of physics and chemistry which underlie the practice of agriculture.

As it is an important subject, I annex the programme.

Second year. 1 hour a week.

Agriculture, Rearing of Cattle and Rural Economy.

1. Vegetable production. Study of the soil and of the means of modifying its chemical composition and its physical properties (manures, irrigations, drainage, tilling), special cultivations (cereals, vegetable and industrial plants), rotation of crops.

2. Rearing of cattle. Milking. Different kinds of horses, cows, sheep and pigs.

3. Rural economy. Constitution of landed property. Method of working it, and capital required. Notices of agricultural book-keeping.

Third year. 1 hour a week.

Fruit and Vegetable Gardening.

1. General notion of cultivation. Situation, preparation, and planting.

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2. Special cultivation of trees—vine, apple, peach, apricot, cherry, prune, pear, rose.

3. Grafting.

4. Vegetable gardening.

N.B.—The professor is to pay special attention to the husband varieties of vegetables, &c., in which the neighbourhood is interested, and he will endeavour to give his pupils such a knowledge of the principles that underlie the art as will enable them to teach well, to give good advice to the cultivators, and to combat routine and prejudice.

As it was a free day in primary schools, I was unable to see the working of the practicing school, but I visited it, nevertheless. I found it furnished, as is always the case in France, with a map of the city—Grenoble, with a map of the Department—Isère, and with a map of France. There was also a box containing a specimen of the principal weights and measures. The director complained of the difficulty of getting a good attendance in the school, owing to the sparse population of the place, the average attendance being only forty. I remarked that there was no manual work in the school, and was informed that there was no time for it, and that the whole question of manual training had still to be settled for France. He is, however, a strong advocate of this training, as much from an educational as from a practical and a social point of view. He believes that a knowledge of the use of carpenter's tools would often keep young men out of public-houses, as it would afford them an agreeable way of passing their evenings. Before leaving the college he explained to me the method of training the students to teach both in the school, and at the pedagogical meetings. He also informed me about the lectures, &c., for the entertainment of country people, all of which is incorporated in the report.

Nov. 2nd.—Visit to the Higher Primary Schools, Rue St. Michel, Grenoble.

Before mentioning what I saw in this school, I think it well to point out an important change which has taken place in the organization of the primary schools of this city. Formerly every elementary primary school worked on its own full existence, having beside the two low standards or courses a higher standard, and sometimes a complementary one. There was then no non-technical higher school in the city. Now, all this is changed, there is at present no higher standard in any of its elementary primary schools; all the pupils of the latter who obtain the certificate of primary studies or who are in the ten years of age betake themselves to the higher primary school. The statistics of the change is here given. Formerly eight schools with higher course and no higher school. Now no school with higher course but one higher school with about 230 pupils. The same change has occurred in girls' schools.

From inquiries made in Grenoble and elsewhere, I learned that a similar change has occurred in other towns, so that there is a tendency to increase the number of higher primary schools throughout the provinces, and to limit the teaching in the elementary schools to the middle course.

By this new organization that dissipation of energy which took place some years ago is done away with, and the pupils of the higher standards have opportunities in studying. Now that they are all together, they learn more thoroughly many subjects, but especially physics and chemistry which require some expensive instruments.

This plan of division of labour, although not without its drawbacks, is nevertheless likely to spread. One effect of the change has been to diminish the chances of wood and iron-work being taught in elementary schools, for as manual work is not necessary for obtaining the certificate of elementary studies, and as teacher and pupil alike are anxious that this cer-

tificate should be obtained they naturally do not devote much time to a subject which they consider as ornamental rather than useful.

Paper folding and cardboard work seem never to have been rightly understood in the provinces by either inspector or teacher, and consequently was never very seriously taken up, nor is there any sign of a change at present.

To give a correct idea of the nature and extent of the work done in the general section of a Higher Primary School, I here append a table giving subjects taught and number of hours a week devoted to each of them.

TABLE OF STUDIES FOR GENERAL SECTION.

SUBJECTS.	HOURS A WEEK.		
	1st Year.	2nd Year.	3rd Year.
Manual Instruction:			
French	2	1	1
History	2	1	1
History and Civic Instructions.	2	1	1
Geography	2	1	1
Modern Languages	4	3	3
Mathematics	4	3	3
Agriculture and Book-keeping.	2	2	2
Physics and Chemistry.	2	2	2
Natural History and Hygiene.	2	1	1
Arithmetic	2	1	1
Natural Geography and Common Law.	2	1	1
Drawing and Modelling.	2	2	2
School Work.	2	2	2
Oral Instruction.	2	2	2
Reading	2	2	2
Total.	30	26	30

As may be seen from this table the time given to manual work is only four hours a week, and consequently these schools cannot be considered in any true sense of the word as being schools of apprenticeship to a special trade.

The Higher Primary School of Grenoble already mentioned is quite a new building not yet out of the workmen's hands. There is a separate room for physics, for chemistry, and for wood and ironwork, but none of them is as yet fitted up with instruments, &c. The pupils go for manual work to the workshop of elementary school in Cours St. André.

As there was a class being held in this school I went there and found the pupils busily engaged at wood and ironwork. I found the work that was being executed somewhat different from that done in Paris, more technical and not so truly educational, but still interesting. The pupils who always, as far as possible, work collectively were about to begin a mortise, and, to give me an idea of the way the work is carried out, the class teacher blew a whistle and told the pupils that the skilled workmen would show them how to work a mortise. The latter then showed in a practical manner with sufficient explanation for those who had—as was the case with these pupils—already learned how to do it, the way to hold the chisel, &c. The teacher having observed a pupil who was not paying sufficient attention called him forward and asked him to begin the operation at another end. Thus he did, but only to go wrong by holding the chisel in such a way as to cut into the wood outside the mortise. The master now (quite contrary to Mr. Salomon's advice) took the chisel and showed the boy what would happen if he continued to work in that way, and then pointed out to the class a sketch of the directions of the two cuts necessary to perform the operation successfully. He now let the workman continue his teaching and here I left him, and the class. I next saw the iron-work, and well executed I found it. There is no wire used as in Paris. The pupils begin with the iron plate on which they soon learn to use the carver. Two of the pupils were turning a piece of round iron into an aesthetically shaped support for iron rails; as it would be difficult for one boy to work the lathe and attend to the turning,

they divided the work between them, each changing after a week. I took two specimens of the turnery work, which I hand in.

The pupils of the last year take wood and iron specimens for a month at a time, after that their future career determines whether they shall continue to work at the two or at one; the latter usually the case.

The materials required for the wood and iron-work in schools in France is furnished by the commune in which the school is situated. Any useful objects made are given away to needy persons.

I saw returned to the Higher School, and saw the specimens of modelling, &c., done by the pupils, and also some drawing.

I heard the head master give a lesson in French. First the pupils had part of one of La Fontaine's fables to be learned by heart; this was poorly known on account of the holidays; next, the pupils were asked to analyse the construction of the fable to say what was the main idea of the author in writing the fable and other such questions. They did not appear quite able for this work. Then they were told to learn another fable for the next day, and as a preparation for this the master read the fable himself, asked questions about difficult words and phrases, and generally elicited the meaning of it from the boys. How often does an Irish teacher think it necessary to do as much even for young pupils!

I may say I was greatly struck by the advantages the boys derived from being placed together under such an able teacher, who could devote all his time to them instead of being spread over five or six different schools, where the master could not possibly do half as much for them in the way of educating them.

Visit to the Girls' Primary School, Cours St. André.

The middle course were knitting a stocking—while one of their companions was reading an interesting story for them. The teaching is collective, and the pupils are shown how to knit strips of about twenty stitches before being put to do stockings. There is much more attention given to knitting as the province than in Paris. Is not the same true of Ireland? The children may bring thread from home, in which case the stockings of course belong to the child, but if school thread is knitted the stockings are given away to poor children, at the discretion of the head mistress. I was shown specimens of needle-work from each of the four classes, and very good I found them. I hand in some specimens given me by the head mistress.

Visit to the Infant School, Cours St. André.

I next visited the infant school, where there were about 100 children under the care of three mistresses in three different rooms. In the cloakroom, which is large, is a trough, into which water was flowing from eight pipes. In this the children who had just come in from play were washing their hands in turn, while the mistress was drying them. In the second room the children were learning to count by means of bricks resembling Richter's anchor bricks. In this room, before leaving, I saw four or five empty constructed cots in which the children are put when they fall asleep, which often happens in summer.

In the highest class the children were at a reading lesson on the colour. These were represented in parallel coloured bands at the side of the reading book. The mistress first read the lesson, then three or four read it after her till it was repeated twice. The mistress now read the first sentence, which was "the poppy is red." The children were asked did they ever see a poppy, many said yes, but to make sure the mistress showed them a paper one, she then asked them to point out something else that was red, and immediately the children looked around to find something red. Then they soon discovered in the

colour of a pinrose, &c. When a child read that the grass is green, they were asked as before to name something green, and then to show something green. This was more difficult, at last it was discovered that Jeannette had a green dress, and the mistress immediately lifted Jeannette up on the desk so that all the children could see the green dress. And so on to the end. I have rarely seen a lesson given with more profit to children than this, they were kept fully alive during it, and were made to find out the things for themselves.

Before leaving I saw all the little objects in painting, weaving, &c., which were made by the children. The mistress told me they were not as good as usual, as last year's class was very dull owing to the fact that they had been, for a year before they came to her, under the care of an untrained primary teacher, and that she taught them nothing. She remarked that none but trained teachers should ever be put over a children's class.

I returned now to the girls' school for the specimens of needlework I spoke about and I remarked that, although after four o'clock, the children had not gone home. The mistress then informed me that what is called *classe de garde* was carried out in all the schools of Grenoble. At four o'clock the children are allowed out to play for half an hour, they then learn their lessons, &c., in their respective classrooms till six o'clock, when they go home. This custom exists in most industrial towns, so it enables the mothers to work in factories, &c. Of course it is rendered feasible by the fact that the children dine in the middle of the day.

As this is duty outside the official work of the teachers they are remunerated for it by the Municipality; the masters get £12 and the mistresses £8 a year extra for it.

Nov. 4th.—Visit to the Boys' Primary School, Fourcasse.

This school is attached to the practical school, and I thought that here, at least, I would find some hand-and-eye training, but here, as elsewhere, there is no manual work. I saw the pupils of the second part of the middle course at a drawing lesson. It was the copying of a conventional flower from a pattern drawn on the board by the master who pointed out to the pupils how to set about drawing the different lines, &c. It was neatly executed. I heard the first part of the middle course singing a couple of songs, they sang one of them with a good deal of life and go, it appealed to national sentiments and had for refrain *La France, la belle France*. There is no manual training and no higher course in this school now, although both formerly existed.

Nov. 4th.—Visit to the Fourcasse School of Practical Industry, Commerce, and Agriculture.

I was kindly received by M. Perrin, the director, who gave me valuable information about the nature and working of this school and who gave me every opportunity of seeing the working of it.

This school was founded in 1836 and has since undergone four distinct changes and improvements. The last took place in the year 1886, when it was changed from a technical school into a school of practical commerce, industry, and agriculture, and placed solely under the Minister of Commerce and not as heretofore under two Ministers. To enter this school the pupils must produce the certificate of primary studies. The length of the full course is four years, the course is the same for all the pupils of the first year, but afterwards it divides into (1), an industrial; (2), a commercial; (3), an agricultural section. The present aim of the school is to give to young men a theoretical and practical instruction, which will be useful to them in after life. It also prepares young men for entrance to the higher technical schools such as the *École d'Arts et Métiers* of Aix and for the civil service.

APPENDIX B.
IV
Mr Hughes—
Drawing's...
Dury

APPENDIX B
IV.
Mr Hughes
Desiring's
Diary.

The teaching is both theoretical and practical and both are on the lines of the higher primary school but the practical parts are much more fully developed. In the agricultural section, the pupils learn practical agriculture in an experimental plot and in a vegetable and fruit garden attached to the school. During the summer the pupils, whose theoretical instruction is sufficiently advanced, practise land surveying, levelling and topographical drawing.

This school receives boarders, day boarders and day pupils, the latter learn their lessons at the school and so follow the life of the boarders.

The boarders pay £24, and the day boarders £12 a year. The day pupils are admitted free since 1881. There are also a certain number of free places maintained in the school, some by the State and some by the Department. These are obtained by passing a competitive examination, and thus it is possible for a smart boy to receive a really useful education with little expense to his parents. There are at present in the school about 170 boarders—10 day boarders and 155 day boys. They are all between the ages of 12½ and 17 years of age, they come from Ister, and the neighbouring departments, and belong to the lower middle classes. In Ireland they would be studying for the Intermediate, or in the highest classes of the National Schools, both of which, for many, lead no where; in France they are being prepared for the duties of after-life.

As an indication of what many of the students become I here annex a list, showing the examination passed by them in the year 1895-96.—

No. of Students	Examination.
27	Certificate of Higher Studies
17	Lower Brevet
21	Maitre-Classe (Headmaster).
4	École d'Art et Métiers
4	Training College
3	Second Class Apothecary

The rest of the pupils go directly into different kinds of business without passing an examination.

I saw part of the third year's pupils at modelling in a large room filled with specimens of every kind, some of them were very artistic, and had, I was informed, been executed in the school. A skilled artisan had charge of this class. I next visited the chemistry lecture-room and manipulation hall. The latter is most conveniently fitted up with hoppers (funnels) for carrying away the noxious fumes. There are six of them in the hall, and each of them accommodates four pupils. Organic as well as inorganic chemistry is taught. There is a good collection of physical instruments, but the pupils make no experiments, nor do they make any experiments in chemistry till the fourth year.

There is a very interestingly arranged room for artistic drawing, several pupils can work at the same subject at same time without in any way interfering with each other.

I think it not unwise to give here an extract from the regulations for this subject:—

"Artistic drawing is obligatory. The pupils ought to be fully aware of its utility. Whatever may be the career they are destined for, they ought to consider drawing as a means of educating with the eye and the hand, and consequently as being absolutely necessary for them. It develops in them an æsthetic taste, and even if they have not to practise it later on as artists they will nevertheless be able to make useful applications of it, whether in modelling or manual work, or finally in the calling for which they are preparing. All ought then to work at it with ardour, and especially with the application and steadiness which is demanded of them for all their studies."

I visited the workshop, which are very fine and in which I found about forty pupils. They were engaged at all kinds of work in wood and iron, such

as fitting, forging, using machine tools, construction of electrical machines (a speciality of this College), carpentry and joinery of all sorts. Turning in wood and iron is also practised, as is wood carving by the most persevering pupils. How difficult it is to properly train the hand and eye was shown by a well executed piece of carving, but of quite different shape from the original. A pupil of the third year, but a beginner at sculpture, was engaged at it; he seemed surprised when I showed him the article he had made.

Much of the training of this school differs from that of higher primary schools, as machine tools are largely used in this case. I was surprised at the true many of the pupils, who would have little to do with wood or iron work in after life, gave to such work.

The technical education of the third year is completed by numerous visits to the most remarkable manufactures and firms of the neighbourhood. These are made under the supervision of the professors, and the expenses attached to them are borne by the State. It is the same with the much greater expense which results from the *conferences scolaires* (scholastic excursions) of three to five days' duration, which usually take the place of school prizes. These conferences are organized at the beginning of the vacation, and the most meritorious pupils of each of the divisions take part in them. I may remark that these excursions are connected with all classes of schools in Grenoble, and that pupils, teachers, and parents alike are quite pleased with and interested in them.

Nov. 6th.—Visit to the Higher Primary Schools for Girls, Grenoble.

This school has been transformed from an elementary into a high primary school within the past few years. It contains at present about 230 pupils, from 12½ to 17 years of age, they are divided into four courses or seven classes, viz.—two classes for each year, except the last, in which case they form only one class. The lady-directress kindly gave me much information about the working of the school, and the future destination of the pupils, &c.; she informed me that there are 230 pupils in it, and that last year of the pupils in the two highest classes—

9	obtained the Higher Brevet.
37	" the Elementary Brevet.
7	" the Certificate of High Studies
4	" free places in the School

10 passed the Entrance Examination to the Training College

When we remember that the Higher Brevet is usually obtained by pupils of a training college only, we have a fair estimate of the style of work done in this establishment. It holds a deservedly high place in the estimation of the educational authorities.

As there was no manual work being done at the time I examined some specimens of needlework, and found them very neatly executed indeed, there was one specimen of an invisible darn on very fine linen which is finer than anything I have as yet seen. I prepared a few specimens of the average work done, which I had in my pocket. Besides needlework, ironing, cooking, and theoretical domestic economy is taught in this school. Lessons in the practice of cookery are given twice a week to the pupils of the second and third year for three hours at a time. Three pupils of the second year go first to the kitchen and prepare for cooking the parts of the dinner which are easiest to prepare, then three pupils of the third year go and prepare for cooking what remains for the juniors, together with some more difficult things. The reason given for this arrangement by the lady-directress was that the most difficult and the most important part of cooking for an artisan's wife consists in so using bits and scraps as to make a palatable and wholesome dish. The prepared dishes are put on the fire and attended to by the different sets of pupils according to the time necessary to have them all ready about

the same time. The cooked food is given away to the needy children of the Primary School attached to this school. I visited the kitchen and found it supplied with the utensils usually found in a workman's house, and with a convenient stove. I next visited the ironing room, which is a long passage fitted up with a table capable of accommodating about thirty pupils: the irons are heated on gas stoves. The pupils bring the linen already washed from home, and iron it in the school. I saw the first year's class at a sewing lesson given by the teacher of the class. The pupils were engaged reversing the difficult stitches already learned in the Elementary School; they sew them one after the other on a strip of calico about a foot long and five inches wide. I next visited the second year's class, which was cutting out a baby's jacket from a pattern obtained from a geometrical design. All the measures and tracings are written down in a copy-book and preserved. The pupils, being allowed to use what material they wish, were engaged making up the little article in flannel and different sorts of calicoes, &c. A special mistress was engaged giving the lesson. I heard a lesson on the extraction of square root in arithmetic given to third year's class. It was excellent. The pupils were called to the board one after the other and the reason of each step was asked, and when not known, elicited by the help of algebraic symbols. How I wish arithmetic and algebra were as well and as rationally taught even in boys' schools in Ireland! Before leaving the head mistress kindly gave me an authorised copy of her text table, which I enclose herewith.

Visit to Mixed School, Cours de Finille.

This is a new school, originally built with two class-rooms and for two teachers. At present there is only one teacher, as there are not enough pupils for two, with the result that there is a small room, without any space for draft circles or for moving freely about, filled with children from seven to thirteen years of age. It seemed to me that the work was not being carried on very efficiently, and I asked the mistress why she did not employ some of the more advanced girls as monitors to help her. She told me she did so last year—she was only about a year in the school—and that the parents objected, saying they sent their children to school to learn and not to teach. I may say that, although not a great lover of the monitorial system, I was quite convinced by what I saw, that in small schools like this with one teacher, it is much better to employ the pupils as monitors than to have the children sitting in desks practically unoccupied. There were, as is usually the case in France when a mistress is over a mixed school, very few boys present. It has been found that a mistress quickly converts a mixed school into a girls' school. I saw some sewing, which, considering the difficulties, was good; but, of course, there was no agriculture, nor, what is still stranger, there was no garden attached to the school.

Visit to Mixed School, Pont de Claix.

What a contrast! This school is under the care of a master and his daughter. There are about fifty pupils in average attendance, which usually does not warrant two teachers, but when the master can avail himself of the services of his wife or daughter the authorities are not so strict in attending to the average attendance. This master takes much interest in teaching agriculture, and has induced the Commune to give a *champs d'expérience* for the use of the school. He showed me a copy of the new agricultural programme, interleaved with note-papers, every sheet of which was nearly full of annotations of his own. He next showed me a large quarto scrap-book containing at least a hundred pages, on each of which is a specimen leaf of a plant of the neighbourhood with flowers, &c.; the name attached to it is the ordinary name by which it is known in the district. On

each of these leaves is written a botanical description of the plant, and to it is added whether it is beneficial, poisonous, &c. He also showed me a small *peacock botany* which he gets the older pupils to use whenever they gather a plant the name of which they do not know. He has also a nice collection of butterflies and insects of many kinds fixed up on pins arranged in rows. In the school garden he showed me a specimen of a young pear tree he grafted two years ago, and which bore, he told me, seven pears last summer. When he is going to perform any operation like that he tells the pupils about it when giving them their lesson on agriculture, and he brings them out afterwards to see how he does it. We next visited the *champs d'expérience*, which is at a short distance from the school. It is rectangular, and measures thirty paces by twenty, or less than half a rood. The Commune pays 13s. a year for it, or more than 46 an acre.

In this there are many rows of vine trees. The master informed me that there were twelve different kinds, and that he was engaged in making experiments on them to find out which sort was the best for the climate and soil of Pont de Claix. He also told me of the expense attached to the growth of vine in France of late years, as they were obliged to plant American stocks, and to graft on French slips to them, as this was the only way as yet discovered of withholding the ravages of the phylloxera. He told me he gets the pupils to make grafts on table or on dead wood, but that they are generally too young to do them on the living stem. In one part of the garden there were stalks indicating that he had been making M. Leblanc's experiments, and he informed me that he had carried them out for the past few years. There were some cabbages and other vegetables on this plot, on which he was showing the effect of manuring. I found this school, I need not say, most instructive, as showing what might be done in a rural school by a teacher well instructed in agriculture and knowing how to teach it. The master informed me that without experiments little good could be done towards impressing the principles of agriculture on the child's mind.

Visit to the Girls' Elementary School, with Complementary Course, Finille.

In this school there is no laundry nor cooking; but there is drawing, needlework, and cutting-out. I saw some of the specimens of the needlework, and some of the drawing-books, both were well done. I commenced the complementary course in geography, and found that they were fairly well acquainted with the position and towns of England, but Ireland was to many of them almost a *terra incognita*. The Map of Europe in the school was old and inaccurate; the line from Dublin to Liverpool was at an angle of at least twenty-five degrees below the horizon! The head-mistress of this school was evidently quite devoted to her work.

Visit to the Boys' Higher School, Finille.

This is a higher school with an agricultural section and has about eighty pupils. I visited the chemical manipulation hall, in which there are three or four bottles, and I was told by the head master that the pupils learn organic as well as inorganic chemistry after the first year. The second and third years' pupils were assembled together for a lesson on physics, at which I attended. The master was expounding the properties of a prism. He used a nicely-mounted prism to show the truth of his assertions. I remarked that the pupils of the third year who had learned this the year before, had the note-books which they used last year. This, I may say, is a characteristic of French school life; their note-books are really executed with the idea that they ought to be preserved; our note-books are generally used for rough notes, with the result that they are nearly always torn up when

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finished. Another characteristic of French school life is the few petted books used by the pupils; the master explains more than with us, and asks two pupils to remember and learn by heart only the salient points of what he has told them; these are always copied out neatly in note-books, and carefully preserved. I next visited the school garden and *champs d'expérience*, which are, as is usually the case, both situated together. In the latter I found signs of M. Leblanc's experiments which, the master told me, had been generally successful. I also found many different kinds of fruit trees, on which the pupils practise grafting, &c. Much attention is given to this part of horticulture in this school, as fruit-growing is of importance in the district. There were some several beds containing different plants of the same species, &c.; the pupils made a special study of them, and learned to distinguish them from one another. The professor of agriculture in a Higher Primary School besides possessing the Higher Brevet and the *Certificat d'aptitude pédagogique*, must possess the *certificat d'aptitude à l'enseignement agricole*. This is obtained by passing an examination consisting of a written, an oral, and a practical part, and all turn on a knowledge of natural science, and of both agriculture and horticulture. In important schools of this kind a special professor, having a diploma from an agricultural college, is engaged.

The programme of theoretical agriculture and horticulture in a Higher Primary School is as follows:—

Agriculture.

First Year.—Soil.—Sub-soil.—Modifications in view of cultivation, instruments of tillage, different operations of cultivation.

Study of plants from an agricultural point of view. Natural agents of vegetation.

Domestic Animals.—Useful and injurious insects. Garden Instruments.—Principal operations of horticulture.

Second and Third Year.—Soil and water, drainage and irrigations.

Operation and instruments of large cultivation.

Cultivation peculiar to the district.

Natural and artificial meadows.—Vine growth.

Large and small cattle, poultry-yard, rearing of bees.

Gardening.—Vegetable and fruit gardens, works and products.

Notions of the growing of trees.

Agricultural economy.

Agricultural book-keeping.

Practical Agriculture and Horticulture.

First Year.—The pupils are employed as helps in the works of the other years.

Second and Third Year.—Spring and Summer Work.—Principal operations of gardening, demonstrative cultivation, grafting, comparative experiments in cultivation, plants of different varieties with the same names, same plants with different names, experimental squares and plots. Cultivations peculiar to the region.

Winter Work.—Preparation of products used in agriculture; lime in its different forms, salts of copper, &c.; mixing lime and sulphur with seed corn, &c.; experimental study of the elements of a piece of earth, of vegetable mould, of a cinifer, and of the principal measures (these experiments will be simply qualitative.)

Preparation of limestone in a specimen of soil, of alcohol in a sample of wine.

I give this programme because it is prescribed for pupils from twelve and a half to fifteen and a half years of age in Primary Schools, and to enable those interested in the teaching of agriculture to compare it with the Irish programme.

Nov. 6.—*First to the Ecole Nationale Professionnelle, Vaux (Isère).*

As I have already mentioned, this is one of the three great National schools of France; it was built about a dozen years ago by the Government and cost 280,000. The town of Vaux gave 210,000 towards the expense of it. It is nicely situated on the outskirts of the town, and covers with all its different buildings more than 9 acres. It consists of an Infant, a Primary, and a Technical School.

In the absence of M. Berthoin, the Director, through illness, I was most kindly received by M. Belot, the bursar, and M. Beaupré, one of the professors of mathematics, and I take this opportunity of returning my best thanks to them, especially the former, for the trouble and politeness displayed in conducting me over the entire establishment, and patiently explained the working of each part of it to me.

The Infant School.

"Everything in connection with this school is better than elsewhere," said M. Rey, the academy inspector to me, when advising me not to leave here without seeing Vaux. This I found to be true of the Infant school. Part of the advanced class was learning to count when I went in; the method employed consisted in putting down a little cross and putting the figure 1 under it, then two circles, and putting 2 under them, then three little squares, and so on up to ten, then writing the concrete and abstract in a most intelligent way. The collection of Kindergarten objects made was very interesting, and besides the pinning, folding, weaving, &c., seen in Paris and elsewhere there were grating (sawing), moulding, straw-plaiting, and wire work. As the grating is new, I may say it is executed by taking a sort of friable stone, about four inches square and half an inch thick, and drawing the outlines of an object on it, and then getting the children to scrape away the stone, not forming the object, with a suitable instrument, till it is only a quarter of an inch thick; they thus leave the object on it in relief. The moulding is a much more elementary occupation, and not so useful for developing manual dexterity; it gives a good looking, however, in beautiful forms. I procured a specimen of each of these which I have given over to Secretary of the Commission.

I take the liberty of suggesting here that it would be well to form a Scholastic Museum in Dublin which would be open to teachers and others interested in educational work on Saturdays for three or four hours. Besides containing a specimen of the different kinds of work done in the schools of Ireland it might have specimens of the different maps, slates, desks, &c., used in connection with National Schools as well as one or more copies of every book used generally in Irish schools. Pupils in training would learn much from such a museum, and would on their return home be able to spread the knowledge acquired among the teachers of their neighbourhood.

The Primary School.

In the Primary School I found for the first time since I quitted Paris manual training in an elementary school. There is, however, no wood or iron-work usually, because there is no apparatus course, but the folding of paper, the drawing of outline sketches, and all that appertains to manual work without a workshop in very well carried out indeed. The head master gave me a very complete set of paper cuttings in geometrical form and some characteristic specimens of card-board work, &c., all of which I have given to the Secretary. In this school there is the best collection of maps I saw in any school in France.

Among others are the following:—

1. Map of the Department of Isère.
2. Relief Map of France.

3. Map of France with an intuitive representation of the population of the towns.
4. Map of the Railways of France.
5. Map of Europe.
6. Map of the World.

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The map of the locality is usually drawn on the blackboard by the master.

The head master drew my attention to the few names given on most of these, and said that the old plan of over-crowding maps with too many names defeated its aim, for under the circumstances nothing is really seen or learned from them.

I take this opportunity of describing in detail the map of the Département of Isère which I found in almost every school I visited. The map is on coffee-wood rollers and highly glazed, and is about 4 feet by 3. It is worked out quite on the intuitive system. At the bottom are a number of objects such as a steam engine, a cow, a vine press, &c., and after each of these is a word or two signifying what they represent. At each town and village one or more of the objects mentioned above is printed, and gives an outline indication of the pursuits and occupations of the people of the different places. Compare this map with the 14d. ones supplied to National Schools.

Many of the modern maps used in France are double—as outline blank maps, the same as the map on the front, being given at the back; the material on which it is printed is such that it can be written on with chalk, and is thus most useful.

In the class-room I remarked a number of slanting lines distinctly drawn on the desks, at an angle of 95 degrees from the perpendicular. The master informed me that these were lines used to show the pupils how to place their copy-books when writing. He said that this prevented curvature of the spine, and in proof of it he ordered the pupils to take out their copy-books and pens, and begin writing. The result was, as far as I could judge without getting the pupils to take off their coats and waistcoats, obvious, each pupil sitting without the spine being in the least curved.

The Technical School.

The object of this school is to furnish agriculture, and the different industries of the South-east and the South of France with young men, industrious and well instructed. The instruction which is given in it is unusually practical. Its programmes, very complete and as far removed from those of the Higher Primary Schools as from those of apprentice schools are particularly suited for young men of the labouring classes who, destined from an early age for factories or learning, want at school not a purely theoretical knowledge, but that precise knowledge which can be immediately utilized.

The teaching is both theoretical and practical, and is divided into courses common to all the pupils and special courses for the industrial and the agricultural sections.

The general education comprises—(1) French, (2) history, (3) geography, (4) English, (5) arithmetic, (6) book-keeping, (7) geometry, (8) mensuration, (9) algebra, (10) trigonometry, (11) physics, (12) chemistry, (13) natural history, (14 and 15) geometrical and artistic drawing, (16) music and (17) gymnastics.

The technical part of the programme comprises for the industrial section—(1) Technology, (2) mechanics, (3) descriptive geometry, (4) scientific and industrial nomenclature, (5) exercises in sketching and in technical drawing suited for each speciality, and (6) numerous manual exercises. These exercises, for the performance of which the school is beautifully equipped with a fine assortment of instruments of all kinds, comprise metal work—such as frugs, fitting, machine instruments, woodwork, such as cabinet making, ebony work, modelerie, sculpture; theoretical and practical weaving of silk, cotton, linen, hemp, &c. ;

modelling and moulding, also the management of steam engines, of electrical machines, and of the principal motors employed in the various industries.

The agricultural portion of the programme comprises—(1) Agriculture, (2) vine culture, (3) care of cattle, (4) rural engineering, and (5) numerous practical exercises. These exercises are included—(a) The different agricultural works, such as sowing, ploughing, grafting, pruning; (b) experiments in cultivation and in gardening, such as experiments on different kinds of earth use of manures; (c) the working of agricultural machines and the management of hot-houses. These exercises are completed by the notions on the rearing of bees, and by wheelwright's and carpentry work, for which the school has a special workshop connected by electricity with the general workshop of the institution. There are both intern and extern pupils in the institution; the number of the former is limited to 300, and there is every year a competitive examination for the vacant places. The externs are free, but the boarders pay £30 a year.

The annexed table gives the number of hours a week allotted to the different subjects taught in the institution:—

SUBJECTS	1st Year.	2nd Year.	3rd Year.	Special Course.
Technical Training,	14	17½	24½	17
Drawing,	6	6	6	10½
Literary Studies,	9	8	6½	7
Mathematics,	5	6	5	10
Physical and Natural Sciences,	4	4	4	—
Different Subjects,	3	2½	2	½
	60	66	67	65

By the special course is meant the course followed by those pupils who are desirous of presenting themselves for the entrance examinations of the different *écoles d'arts et métiers* and the *écoles nationales d'agriculture*.

The State, the Departments, the Communes, and private persons maintain free pupils in the establishment. These places are given by a competitive examination.

To be admitted the pupils must be as already stated, twelve years old, and have the *certificat d'études*. On leaving the school the authorities, through accredited agents in different parts of the country, do all they can to find suitable posts for those pupils who have merited such attention by their conduct and their application to work.

M. Belot introduced me to M. Salles maître des travaux (director of the works), and the latter conducted me over this part of the institution, and explained the working of each part of it. The workhouse, as he calls a national undertaking, really fine and splendidly fitted up. In the workroom shop there are as many as 150 vices, at each of which a pupil was actively engaged, under the supervision of an artisan master.

In the forge the pupils were engaged at some very heavy work, in which, however, they seemed fairly interested. The wood workshop is not so extensive, but the work was carried on in quite an animated manner. Here, as elsewhere in France, the pupils go in most for fitting pieces together than for making finished articles. I took some specimens of "fitting" with me. I have handed them over to the Secretary.

In life modelling is perfect, and here, at Voiron, we find the weaving workshop deserted, there being only about twenty pupils learning silk-weaving, &c. I was informed by M. Salles that promotion is slow in

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the silk trade, and that few students care to take to a trade which offers no immediate reward for their three years' apprenticeship. Whatever the cause, the looms are idle, the workshop deserted, and the whole atmosphere of this part of the building one of inactivity.

The entire institution is lit up by electricity, generated by the steam engine that works the different instruments in the workshops, the whole being managed with great precision and attention to details. It is attended by one of the pupils of the third year in turn.

From these workshops I went to the agricultural section of the establishment. Here I found a couple of hot-houses, and in different parts of the grounds, three experimental plots, in one of which some of M. Leblanc's experiments on manures had been most successfully and strikingly carried out with *vin de Zooléfer*. Besides attending to the experiments of these plots, the pupils all the while garden attached to the school, graft and prune the fruit trees and the vine, sow plants, &c.; this furnishes them with most of the agricultural work of summer. In winter they pass their time in their own workshops, learning all the parts of carpentry and ironwork most useful for a farmer. These workshops are small, but are the most interesting I visited; I take much interest in agricultural work, and I found them quite suited to the wants of a practical farmer. Being somewhat outside the special object of my mission, I think it unnecessary to give any details about them. I may say, however, I saw three different instruments for different sorts of sowing.

I now paid a rapid visit to the class-rooms; some attention is given here as elsewhere to both theoretical physics and chemistry, but little practical work is done although there is a fine hall for chemical manipulations. M. Belot gave me many notes, &c., relating to the school.

Before leaving the school I was introduced to M. Berthum, who had just returned, and regret not to have had more time to spend in his company, as I found him most communicative and full of the subject of practical teaching.

One thing struck me very forcibly while on the Continent, viz., the anxiety displayed on all sides not to let any part of the educational machinery get into a rut, but to strive continually after something newer and better. I found that many of the heads of important institutions and organisations of systems had paid personal visits to other countries to see what was being done there. As an evidence of this, M. Berthum told me he had this year spent the month of September visiting those schools in Switzerland in which he thought he might find some suggestion useful in the management of his own school. This visit was made at the expense of the Government. He had gone on a similar one to Germany four years ago.

Visit to the Girls' Higher and Elementary Primary School, Favein (Jabre).

The Higher Primary School is a boarding as well as a day school; there are seventy-five pupils in it, of whom twenty are boarders. The latter are taught a little housewifery in the shape of sweeping out the dormitory and setting up their own beds, &c. The whole house is taught ironing in batches for three-quarters of an hour every week. There is no cookery class in the school. I saw the second years' pupils at embroidery. They had made the designs themselves by the repetition of an artistic drawing on a small scale nicely joined together. The French call this kind of work compositions. I procured some specimens of the designs they were working from, which I had in. The embroidery was worked with much taste, and the girls seemed to take great interest in the work. A special mistress, as usual, teaches that fine needlework, cutting-out, and making up. The Elementary School is in the same building, and has the same Directors;

the number of pupils is seventy-four. I saw only a few specimens of sewing, and asked some questions in geography to the pupils of the highest class. The former were good but the latter decidedly weak. The capital of Ireland was quite too difficult for them. Of course there was no superior course in this school.

Before leaving I obtained a copy of a *cahier* recently filled. I had it in herewith, and I considered the period of it, especially the exercises known as *revisions* (editing), and the arithmetical exercises, to all those interested in primary education.

Oct. 18th to 28th — Visit to the schools of Paris.

Mr. Bonaparte Wyse and myself visited the schools and called on the authorities in Paris together; I therefore deem it unnecessary to write an account of what happened each day, as he has given a full record of our experiences in his diary which I have read and with which I entirely agree. I may say, however, that I collected specimens of the different kind of work, especially that in iron, executed in the various schools; this collection, with some things gathered in the provinces, gives an accurate idea of the manual work of the Elementary schools of Paris, especially of those in which ironwork is carried on.

I have arranged these objects in a regular order, and have labelled them, and have handed them over to the Secretary. I have also given him a complete set of the copy books used in teaching elementary manual work; they gave a good idea of the method and aim of the hand and eye training practised in the junior classes. I may add that besides their direct educational advantages, these exercises assist the pupils greatly in learning drawing, measurement, and geometry.

CANTON OF GENEVA.

The following statistics will give a fair idea of the activity of this Canton in connection with Primary Education in the year 1896—

Population of the Canton, . . .	110,000
" City, . . .	78,000
Number of pupils attending—	
Infant Schools in City, . . .	1,600
" Canton, . . .	4,816
Primary Schools in City, . . .	2,600
" Canton, . . .	8,430
Manual instruction in boys' schools, . . .	3,000
Complementary Schools in City, . . .	550
" Canton, . . .	810
Secondary rural schools, . . .	270
École professionnelle, . . .	350
École ménagère (Carouge), . . .	44
Optional night classes, . . .	330

Besides the foregoing, 165 free lectures were given in the different Communes on subjects suitable for country audiences by ten professors.

The classes preferences are also in operation in Geneva. The system on which they are worked is somewhat different from that of Grenoble. The following table, however, explains the working of them.

	15 to 25.	26 to 35.	36 to 45 at Bas Neuch.	Total
Boys, . . .	180	270	90	540
Girls, . . .	147	257	37	441
Total, . . .	328	526	77	1,031

They have been of the greatest benefit to many poor families in the city.

We also find the *caisses scolaires* in active operation in four of the schools, and in one, Neckar, coffee and bread are distributed to the poor gardeners from six to eight. The Canton contributed about £75 towards the expense of the *caisses*. In the school in Bas

Necker deschaux societies are given regularly to the pupils, and the authorities, encouraged by the success of this trial intend to provide bathing accommodation in every new school for the future.

Nov. 8th.—Visit to three boys' schools in the city of Geneva.

I called on M. Bérard, secretary to the education department of Geneva. He received me with great kindness, gave me many pamphlets relating to primary education and also a letter of introduction to M. L. Gilliéron, organizer and inspector of manual work in the Canton of Geneva. This gentleman, to whom my name, introduced me to three schools where I saw the pupils engaged at manual work. In the first I saw the sixth class at woodwork; they were making a wooden tool box in a large well-lighted room in the basement story of the school. There were about 40 pupils present, and they were working at benches capable of accommodating two pupils each. These benches had two wooden vices with a double stop, one at the end and the other at the side, and were thus more convenient than those used in France. The pupils always draw an outline sketch of the object they are about to make; they take down the dimensions, &c., of the different parts on a simple scale, and when the object is complex, they draw plan elevation, section, &c. of it. It is the close union which here exists between drawing and manual work which makes the latter so useful as an educational agent, and which enables it to pay its footing in Elementary schools.

The tools and materials used were the same as in Paris. I next went to a disused school-house in a bye street, where a class from another school was getting a lesson in cartonnage; this place is used for want of accommodation in their own building.

The boys were making a pecto-folio without back, and fastened by means of black tape. They first cut the cardboard to the required size, then they cover the corners with black calico, and then they glue on the front fancy paper, and on the back white paper; some of them were making holes for the tape with a chisel and mallet when we entered, and some had finished—the result was a useful article. I asked if I might have a specimen, and I was told no, that it belonged to the pupil, and that he wanted to show it at the end of the year. I, however, procured one from the master of the class.

I next went and saw the fourth class in the school in the Rue Gruchy; the pupils were making out of cardboard a box which they lined with coloured paper. It was much the same work as the last class was engaged at, but more difficult. The two classes were most animated at their work, and seemed to like it very much. The impression made on my mind by this cardboard work is that it is quite educational and well suited for the elementary classes of schools where there is one master for each class, it is easily learned by the teacher, and costs only a little to introduce it.

As the cartonnage work of Geneva is different from what I saw in Paris, it may be useful to give a few details about it.

The following are the tools, &c., required—

Two sheets of zinc	} for each pupil.
A knife to cut cardboard	
A knife to cut paper	
A set square	
A graduated ruler	} for two pupils
A compass	
A pair of scissors	
Two pots of glue	} for a class
Two pots of paste	
A punch and paste brushes	

The price of the tools necessary for a class of fifteen pupils is about £3. A table should be used if possible, but a good substitute can be made by raising the tops of tables on two desks.

The way the materials are supplied to the schools is this.—The Canton supplies them, and M. Gilliéron has a clerk who cuts out the materials required by each school to the desired size, and then forwards them to the school. Each master is allowed great liberty in the choice of the object he gets his pupils to construct; for it has been found that by this means the best results, from an educational point of view, can be obtained. In manual training more than in any other part of his duties the teacher must be interested, and must be left as much initiative as possible if it is not to degenerate into the "whittling of sticks." The Canton we saw supplies all the materials required for manual work, but the manufactured article belongs to the child.

Visit to the Girls' school, Rue d'Italie.—This is a fine new building, and contains about 500 pupils. In the first or lowest classes the pupils were going out to play, and we thus missed a lesson in practical pedagogy, as three pupils of the section *pédagogie et étude scientifique des sciences* who had been visiting at the school were in the school-room. Both male and female teachers in training practice the art of teaching in the three lowest classes of the different schools of the city. They receive besides four hours of theoretical teaching in pedagogy. I examined the sewing of this class and found it promising. They begin with top sewing and hemming, and use red thread. Gymnastics was being taught to the second class by the class teacher. The pupils were decidedly backward at it. I was informed that a lady went to Sweden a couple of years ago to study Long's system, and that under her direction it is now being followed in some of the schools of the city, and that it is the intention of the authorities to gradually introduce it into every girls' school in the Canton.

I saw the drawing of the third class; it was neatly done, and consisted in drawing conventional flowers. I listened for a few minutes to a reading lesson, and, as is usually the case on the Continent the explanation was really well done, and the children were led to see the meaning of the words and phrases so clearly that reading must be to them a pleasure. I found the fourth class engaged at a sewing lesson. I took two specimens of mending and two of ordinary sewing out of this class.

The Sixth class was also at a lesson in sewing and tracing patterns. For the latter the geometrical method is used, and the result seemed fairly satisfactory. The sewing was very good, I had in a specimen of it. This subject is taught by the class teacher as are all subjects in the primary schools in Geneva.

Nov. 9th.—Visit to the Ecole Ménagère Corange. Corange is a suburb of Geneva, about two miles from the centre of the city.

"To make the young girl familiar with all the occupations of a mistress of a household, to inculcate in her habits of work, order, and economy, to make her understand how noble and beneficent is the accomplishment of the humble duties of domestic life, to cultivate the faculties of her mind, to enlighten her reason, to form her character and her heart—such is the enlightened end to which the Ecole Ménagère aspires." These words are taken from the preface of the programme of this school as an indication of its aim and object, and of the spirit in which it is carried on.

The directress, Madame Chambury, received me kindly, and explained the working of the institution. I saw the first year's pupils to the number of about seventeen at a lesson in cutting out. There is a special mistress for this subject. I visited the kitchen, which is in the basement story. Here I found a simple stove and household utensils, with a small dining table, and learned from the directress the details incorporated in the report. She informed me that the object of the school is not to train cooks, but to educate girls destined one day to be mistresses of families.

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IV.
Mr. Haguen-
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Diary.

APPENDIX II.

Mr. Hughes,
London's
Daily.

The Ecole Polytechnique.—This school very closely resembles in its programme, and its constitution the Higher Primary Schools of France, and on account of its success and of the principle of division of labour which underlie its creation, it merits a close study.

Founded in the year 1856 to give to boys about to devote themselves to practical life the knowledge of the scientific principles which underlie many of the arts of that line of life, and which are constantly applied in industries, this college has been found to satisfy a real want in the educational system of the Canton, and is one of the educational institutions of the place in which the industrialists take most interest. I was unfortunately prevented by illness from visiting this institution, but I learned so much about it, and it is so interesting, that I devote a short space to giving details of its organization and working. This is the more necessary as I left the work done in it out of consideration in my general report as being somewhat outside my mission, but I may say I believe a division of national schools into elementary and advanced is one of the most desirable changes in Irish school life.

The director of primary education in Geneva has been himself for some years the director of this school; this fact in itself gives a fair estimate of the importance attached to it.

There are 350 pupils in it; there are six parallel classes of the first year and four of the second, the average number in a class being thus thirty-five, or half the number a master has to teach in all subjects in an Irish National school.

The programme of studies is given. I here give the details of a few of them.

Physics.—2 hours.

Introduction.—General properties of bodies. Force. Motion. Inertia. Work of a force.

Properties of solid bodies.—Crystallization, tenacity, malleability, elasticity, &c.

Properties of liquids.—Compressibility, equality of pressure, &c., specific gravity, &c.

Properties of gases.—Weight, pressure, barometer, Mariotte's Law, pumps, &c.

Heat.—Expansion. Change of state. Calorimetre, radiation, &c. Steam engines, &c.

Second Year.—3 hours.

Statical Electricity.—Ordinary phenomena, including lightning and thunder.

Magnetism.—Maurer's Compass. Dedication and induction.

Dynamical Electricity.—(a) Production, &c. Definition of words, circuit resistance, &c.; electrical units, Ohm, Volt, Ampere. (b) Chemical action of currents. Accumulators. Voltaic series. Measure of current.

(c) Action of current on magnet. Galvanometer. (d) Action of current on soft iron. Electro-magnet. Motors. Electric bells. Telegraphy. Electric clock.

(e) Heating effect of electric current. Incandescence. Voltaic arc. Pyroelectricity. (f) Action of an electric current on another current. Movable currents. Action of the earth on solenoids. (g) Action of a current on a closed current. Induction. Ruhmkorff's coil. Magneto and dynamo electric machines. Transformation of force. Telephones.

Summary notions of acoustics and of optics.

The method followed in teaching physics consists of rendering the pupils conscious of some fact, such as that a piece of iron feels colder than a piece of wood, and then getting him to draw the conclusion that iron conducts heat better than wood, and finally leading him on to the definition of conductivity from a knowledge of its manifestation. This method renders the knowledge of physics more real, tends to create the power of observation, and trains the power of deduction, one of the main reasons why the study of physics holds a place in so many educational systems. The pupil is constantly called on to cite and to explain examples, and has consequently a knowledge of physical phenomena which never rests on

passive memory." Such, in a few words, is the ideal aimed at in this institution as set forth in a notice of the school by the Director. And here I venture to remark that such a programme could never be attempted in primary schools without the grouping of boys to gather in a school with a well equipped physical laboratory and under a specialist. Let us not forget that the pupils are between thirteen and fifteen years of age.

Chemistry.—Second Year—2 hours.

Introduction. Simple and compound bodies. Oxygen, hydrogen, nitrogen—Study of air and water. Carbon and its compounds. Coal gas.

Phosphorus, sulphur, chlorine, iodine, and their compounds.

Silica, quartz, sandstone, sand.

Metals.—General properties—alloys. The principal metals.

Cast-iron and steel.

Drawing.—1 hour.

Drawing of solids and of objects from section, and from outline sketches.

Outline sketches, construction in free (cavalier) perspective made from these sketches.

Shades in admitting the parallelism of the rays of light.

Study of types chosen with the object of enabling the nature of worked (moulded) forms to be known, such as joints, superposed forms, woven forms.

Decorations of these types according to the material and the use. Colours. Elements of normal perspective. Drawing from memory. Composition. The master of drawing will get sections and developments executed in cardboard. He is to devote one hour a week, on the average, to this work.

Technical Drawing.—2 hours.

Use of instruments. Elementary geometrical constructions.

Drawing of sections and of elevations from outline sketches.

Free perspective from outline sketches of superposed and joined forms.

Drawing and Modelling.—Second Year—7 hours.

Study and drawing of types chosen with the object of enabling forms modelled and cut, turned and hammered, to be recognised.

Decorations according to the material and the use. Shapes and colours.

Drawing of plants and of animals, starting by seeking the principal points of the shape. Resume of notion of normal perspective. Drawing from memory compositions.

Technical Drawing.—Second Year—2 hours.

Tracing the usual curves. Working drawings: pieces of architecture and elementary parts of machinery from outline sketches; shades by parallel rays. Conic and conic perspective with figured forms.

Manual Work.—3 hours.

Properties of the material which is used in the works. Tools, the name, the use, and the way to use them.

Woodwork.—Different woods employed in industry; their classification: indigenous wood and exotic wood; softwood, fine wood, hard wood, and soft wood. Their qualities and other defects, the use made of them.

Scissors.—Teaching a pupil to saw straight and parallel to a given direction. For example, the con-

struction of a pine frame. Joints, tenon, mortise, dovetailing, &c. Constructions, with the use of different joints.

The pupils ought to construct all the different objects from outline sketches.

Second Year.—3 hours.

Continuation and development of the first year's programme.

Forming.—Nature and care of the tools.

Sections of bodies of rotation. Execution of objects on turning cylindrical, conical, and spherical surfaces.

Iron and sheet brass work.—Nature and care of tools. Exercises accustoming the pupil to flat file and to the square file.

The pupils are to construct all their work from outline sketches.

These manual works are carried out by the use of the saw, the plane, the lathe, the chisel, and the file. They are partly individual and partly collective.

The spirit in which manual training is taught in this school is given very fully by M. Bouvier. I appeal, for the sake of comparison, a few passages.

"These works are by no means a beginning of an apprenticeship, they aim at no fixed trade, they do not even seek in an absolute manner dexterity of hand or success of eye. These qualities will be the necessary consequence of a teaching methodically and intelligently given, but they cannot (no means) be the principal object. These works constitute an experimental teaching, the essential object of which is to help the other studies, to render clear, correct, and precise the notions they furnish, in causing them to be applied and refined in the construction of objects chosen for this purpose.

"From this method of looking at this new subject of school studies flow naturally the method which ought to inspire it. The master has to occupy himself less about the perfection of the execution than about the manner in which the pupil proceeds, and the notions which guide him in his work.

"Without a doubt, the handling of the tools ought not to be neglected. Care will be taken that the child does not acquire bad habits, and that his attitudes are correct, that he proceeds with prudence and economy, that he calculates the reach of his movements. But all that is not necessary. What is of importance is that he becomes convinced that no construction whatsoever can be executed from a vague and ill-defined conception, but that it must be prepared and determined by the exercise of his intelligence; that he understands in which manner the notions he has received intervene in the work of his hands; finally, that he accustoms himself to proceed with method, and that he learns to value the knowledge he has acquired.

"Regarded from the point of view of the pedagogical interest that it presents, manual work can exercise, when carried out methodically and intelligently, a salutary influence both on the various of the teaching and on the disposition of the pupil. The latter, to apply the knowledge that he possesses, is obliged to pass them through his memory, to analyse them, to find out their complete and precise meaning, in order to get from them the parts immediately utilisable. Submitted to this effort of thought the notions acquired rid themselves of the encumbrance of words and formulas, and appear at his eyes as they really are—the vivifying substance which nourishes and strengthens the intellectual organism.

"On the other hand, seeing the indications of theory plainly verified he comes to feel and understand all the value of the importance of instruction. Henceforth instruction no longer appears to him as a luxury with which we adorn ourselves on certain occasions, but as a precise and powerful instrument of work which is used every day and on all occasions and without which a man is condemned to be but a miserable workman.

"The master will not forget that his duty is less to teach his pupil how to saw and to plane, than to get him to apply his ideas and to translate the habit of intelligent and thoughtful work. It is by thinking and reasoning, and not by hearing and learning by heart we become educated."

There are in the School a large physical and chemical class room with a laboratory, three drawing halls, a workshop, and a gymnasium beside the usual class rooms, all of them airy and well lighted. I have headed in the prospectus of this College, as it gives valuable information about the organization and working of this school.

Nov. 19th.—*Visit to Boys' Primary School, Carouge.*—I saw the work of the different classes in order from the lowest to the highest, and could, consequently better judge the work done than from any visit to the three schools the first day. In the first (lowest) class I found a mistress, and I was informed that it is usual in Geneva to confide the children of the first, and sometimes of the second class, to mistresses. The same practice is found also in Grenoble, but I did not happen to visit a school where it was carried out. The mistresses who were present at the lesson given by M. Gillieron, and mentioned in the report, held similar posts in boys' schools. I saw the manual work of the pupils. It consisted of paper-folding and drawing, as in Paris. It was well done. The drawing, paper, was very elementary, but was fairly well executed. I examined the manual work of the next three classes, and found it quite the same as that of the schools I visited in the city. The woodwork of the fifth and sixth class is carried out in a large room in the basement story of this building. It in no way differed from the work in the city, except it was not quite so advanced. I asked the principal master did the introduction of manual work in any way interfere with the other subjects—he said no; and I then asked him had any subjects been dropped to make room for it; he said, on the contrary, German had been added to the programme. I asked two other teachers if they considered it a useful subject, and they said it came as a great break in the ordinary studies, and that the pupil looked forward to it with pleasure. There are about 250 boys under six teachers in this school.

In Geneva each master in a school is independent of the other masters, the principal teacher having little more authority in the school than any of the other masters. He controls the pupils, and receives parents, &c.

Nov. 10th.—*Visit to the Infant School, Carouge.*—This school has about 130 pupils and four mistresses in four separate rooms. I visited the classes from the lowest to the highest, inspected the specimens of the work which is in all cases very simple, and is just what one ought to expect to find in a kindergarten. In the lowest class the children are learning weaving on very thin lath instead of paper. I heard a little singing which was very good, saw interesting pictures on the walls, and another on the blackboard to represent the fable of the Fox and the Crow. I found that Rousseau's pictures, with explanations in French, were used in this school, and learned that they did not turn them to much account. I was well pleased with my visit, and I left convinced that much really useful work was done in this school.

Complementary School.—On leaving the infant school I called in to the boys' school I had been visiting a couple of hours before to see the apprentices at their mid-day lesson. As already stated, they seemed attentively engaged at their work. The teacher informed me that they were inclined to be regular, but that it was not always convenient for their masters to let them away at the appointed hour.

Visit to the Secondary Rural School, Bernex.—Bernex is about five miles from Geneva, and has a population of 500. The school building is new, and has two wings—one for the secondary school, and

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the other for an infant school. I was kindly received by the headmaster, who gave me a great surprise by ushering me into the schoolroom, where I found only sixteen young girls, from thirteen to fifteen years of age. I asked where were the boys, and he informed me they had gone home; he explained to me that the school worked on the half-time principle, the boys coming in the forenoon, and the girls in the afternoon.

I examined the girls in geography; they knew more about the position of Ireland than any other pupils I met, but still their knowledge of places, &c., was inferior to that of Irish pupils generally. I was proceeding to test their knowledge of the provinces, &c., of Ireland, when the master informed me he never teaches such details, as they easily escape the memory, and are useless as training. I then asked questions about the climate, &c., of Ireland, and the causes which produced it. These pleased him well, as they related to general principles, and I found that the girls understood well the low powers of water for the absorption and radiation of heat, and the consequent even temperature of Ireland. I also asked a few questions in arithmetic, but they were not able to make it perfectly clear, why $\frac{1}{2}$ and $\frac{1}{3}$ are the same. Of course I wanted a rigorous proof depending on first principles, and not a mere parrot-like repetition of the fact that the numerator and denominator of a fraction may be multiplied by the same number without altering its value. I examined the pattern of a child's book which they had cut out from a geometrical design, and which they had made up in waste paper, as it was the beginning of the year this was the only thing they had done. I also saw their drawing-books in which I found neatly executed work. The master showed me the school-garden and the champs d'experience, and explained to me the working of the agricultural part of the school. He told me that great interest is taken in this part of the teaching both by the pupils and their parents, and that these schools may be counted a great success. He showed me five different sorts of strawberries in his own garden, and pointed out to me where experiments on new varieties were being made in the champs d'experience.

Thursday is the free day for the boys, and Saturday afternoon for the girls. Advantage is taken of Saturday afternoon to teach the boys hand-weaving, and to bring them to visit well kept farms, special museums, and interesting horticultural or industrial establishments. The visits have been found to be very useful, and I was informed that similar ones are paid by the pupils at all the agricultural colleges in Switzerland.

All the other information he gave me, as well as the manner of growing vegetables and cultivating trees, is given in my general report.

Visit to Infant School, Bernex. — There were sixty-five pupils present; they were all in one room, and the discipline was remarkably good, considering the headmistress was absent. There was nothing strange in the room, and nothing new to record about methods or results, &c.

Visit to the Primary School, Bernex. — This, I learned, is a typical rural school of Switzerland. It consists of two stories; in the lower one are the pupils (boys and girls) of the two or three highest classes under the care of a master and an assistant, and in the top one the pupils of the lowest three under the care of a mistress and an assistant. This arrangement holds throughout the morning and part of the afternoon. During the other part of it all the girls go upstairs to learn needlework, and the boys come down stairs to learn gymnastics and manual work. There is no hand and eye twisting in rural schools, but woodwork is carried on wherever there are, as here, two masters. The workshop is at the end of the school and entirely cut away from the schoolroom. The benches, &c., were the same as in the city. An

example of the useful nature of the things made, the master showed me a wooden dust-pan which he had executed for use in the school.

At the time of my visit the assistant master was giving a lesson in gymnastics; I was surprised at the confined space in which he was obliged to teach the exercise, and that there was not a better playground attached to the school. In this respect, and with regard to games generally, Continental people have still much to learn from us. I was unfortunately struck on more than one occasion with the liveliness and ardent way in which the grown pupils of the higher schools of France spent their free time in the playground, and contrasted it to their disadvantage with the life and animation of an Irish playground. I am, however, informed that much still requires to be done to organize games in Irish national schools. As a school of morality, I know nothing better than active outdoor sports of all kinds. The French and the Swiss are aware of our advantages in this respect, and are making great, and, I may add, successful efforts to introduce our games into their schools.

But to return. I found all the girls busily engaged sewing, knitting, or darning, &c. I have already reported what I saw, and so it remains only to add that I took a few specimens which I have handed in.

Visit to Practical Lessons given to Teachers in Manual Work. — I have already given details of this lesson, and told what I saw and made. I may add that the two articles I constructed form for me the most interesting part of my collection, and if I might draw a general conclusion of this personal experience, I would say that all the things that children manufacture should be their own property; for if an adult takes an interest in making such simple things as a wall pocket out of paper and a box out of cardboard, surely a child will take still more; and what greater incentive to spontaneous activity of mind and body than interest in our work.

I next visited M. Gillieron's special apartments in the school Rue Gudin, when I had an opportunity of seeing in consecutive order the very fine collection of objects in manual work executed in the different schools, and shown at the Swiss Exhibition in Geneva in 1896, and, at the same time, of contrasting the Geneva work with the Paris work, as he has specimens of most things made in Paris. The conclusion I arrived at is, each is best for the country interested.

Nov. 12th. — Visit to Nyon. — Nyon is a small town of about 3,500 inhabitants on the shore of Lake Geneva, in the Canton of Vaud. I called on M. Lager, Director of the schools, who kindly gave me much information about the organization of the schools of Nyon, and the peculiarities of his own position. He informed me that there is little manual work in the Canton, but that it is about to be introduced, and that, consequently, it has been obligatory in the Training College at Lausanne for some years, but especially since *La Société Suisse pour l'extension des travaux manuels* held a meeting in this city in the year 1894. He advised me, consequently, to visit the Training College as being the best way of learning what was the state of Manual Training in Vaud. He gave me many little notes, &c., relating to his duties as director.

He informed me that theoretical agriculture is taught in the Vaudese rural schools, and that occasionally a *champs d'experience* is to be found. On the hills it takes the form of a nursery for all sorts of fruit trees, especially the vine, and in the valleys it is generally a vegetable garden.

In Nyon there is no infant school, but the authorities are anxious to introduce this system of teaching children. There is a free night school supported by voluntary contributions and attended by twenty pupils.

Visit to Young Men's Training College, Lausanne.

The Director was absent when I called, but his secretary, who is also the teacher of manual work, informed me he would be back by four o'clock. As he himself had an engagement he could not show me the manual work; he informed me that agriculture was taught in the College, and when I asked if there was a stamp of experience attached to it he told me that the best teaching in practical work a student could get is by seeing how his father cultivates the land. To pass time I visited an institute of practical agriculture in the town, and found that it mainly consisted of a museum, three or four hot beds, and a well arranged nursery, containing many varieties of vine and other fruit trees. I am surprised the Training College does not avail itself of this institute to give the students a training in practical agriculture, as it is only about a quarter of an hour's walk from the College.

The building of the Training College is old, and ill-suited for its present use. It is much too small, with the result that the pupils go for woodwork to one place, for modelling to another, for cardboard work to a third, and for physics and chemistry to the university, &c. The last is a decided advantage, as it is near, and there is a good collection of physical and chemical instruments, but the arrangements for the other tend to make manual work be regarded by the pupils as anything but a serious study. When I returned to the College, M. Guex, the Director, was waiting me. He gave me a minute account of the Training College, which I have incorporated in the report, and presented me with many pamphlets, by himself and others, relating to education. He is himself an ex-student of the *École Normale*, afterwards he studied psychology, &c., for three years in Berlin; then taught for some years in intermediate schools before being appointed Director of the Training College. He professes psychology in the University of Lausanne, as well as in the two Training Colleges, and evidently takes a great interest in the education of pupils of the two *doctes normales*. He has made many changes in the courses, &c., since he was appointed; he complains bitterly of the inadequate means at his disposal for the proper working of the Young Men's College in the present building there is, however, a new one being erected, where he will find everything

calculated to make the Training College of Lausanne one of the best equipped in the Confederation.

M. Guex considers lessons in the practice of teaching given to pupils, other than those for whom they are intended, at best time, as there is no opportunity for testing that most valuable art—the student's power of eliciting information from children.

Nov. 13th.—*Visit to the Young Men's Training College.*—I went to see the woodwork, and to attend a model lesson, but found it was a fine day, as the yearly reunion of the Intermediate teachers of Vaud, among whom are reckoned the professors of the Training College, was being held in Lausanne. I, however, saw the specimens of the woodwork executed this year by the second and third class, and I consider it but little calculated to act as an educational agent. The circumstances surrounding the practice of it are, however, the reverse of favourable.

I attended the meeting of the teachers; heard an interesting discussion on the best method of teaching modern languages, and was, by the kindness of M. Lapiot, Director of the schools of Nyon, invited to the teachers' dinner. I made the acquaintance of M. Gauthier, head of the education department of Vaud, and learned much from him about the education of the Canton.

Visit to the Young Women's Training College.—I found Madame Cousin, the Directress, engaged giving a lesson on the relative merits of individual and collective teaching to the pupils of the special course for workmistresses. I sat and listened, and the conclusion is, that, with fairly regular attendance, the collective method is best. The method of cutting out taught is the geometrical one. She pointed out to me after class a figure she had drawn on the board, and the dimensions she had used. Then the pupils had copied down in their notebooks. Other dimensions were then dictated to them, and they were expected to bring the tracing of a pattern, worked out from these figures, to the next lesson. Very few of the students had any work with them, but the specimens I saw were excellent; and Madame Cousin told me that an essential for entrance for this special course is good needlework.

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V.

REPORT ON MANUAL AND PRACTICAL INSTRUCTION IN THE PRIMARY SCHOOLS OF BELGIUM.

By MR. A. N. BONAPARTE-WYSE, M.A., Inspector of National Schools.

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V.

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Report.

I.—GENERAL SKETCH.

Different kinds of Schools.

The Primary schools that are under State direction, and receive support from the public funds, are of three classes:—

- (1) Public Communal Schools,
- (2) Private Schools adopted by the Commune;
- (3) Private Schools subsidised by State.

Every Commune in Belgium is obliged by law to establish and support a primary school, which shall be free to the poor children of the locality. If the Communal Council funds and manages the school, it belongs to the first category of Public Communal Schools. If, however, there is a private school already existing, the Commune may decide on adopting it, and making of it the public school of the Commune. This is the second category.

The third category consists of private schools which are taken into connexion and subsidised by the State, on condition of carrying out the rules and regulations of the Minister of Education.

The two latter classes of schools correspond in a general way to our non-vested schools. They are very often under the management of the clerical authorities. Only half the staff of these schools is bound to consist of certificated teachers.

The State has drawn up a code of regulations which it strongly advises the Communes to adopt as to the organisation of the schools. As, however, it leaves the management of schools and payment of teachers in the hands of the local parties, whom it assists merely by way of subsidy and by inspection, the Communes have a great deal of liberty in the conduct of their schools. The inspectors, as in England, are forbidden to give direct orders to teachers, but are

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required to advise the local authorities on any point requiring attention.

Besides the primary schools, male, female, and mixed, there are also Infant Schools (*Écoles gardiennes* or *Jardins d'enfants*). The Commune is not obliged to support these, but is encouraged to do so by subsidies from the State.

In most populous centres there are *Adult Schools* (*Écoles d'adultes*) which are continuation schools, and receive pupils from the age of fourteen upwards. The number of these is rather considerable; on the 31st December, 1893, there were 1,931 schools for adults in Belgium, with an attendance of 80,959 pupils.

Arrangement of School-time and Subjects taught.

The school-day is of two portions, as in France—morning and afternoon classes; each is usually of two and a half or three hours in length, with an interval in each attendance of about fifteen minutes for recreation. Lessons are of about half-an-hour in the lower classes, gradually increasing to three-quarters or a full hour in the higher ones. For all practical subjects, the lessons are generally longer. The schools are open every day in the week, closing only for a half-holiday on Thursdays or (in some localities) on Saturdays. Morning school is usually from 8.30 to 11.30, afternoon from 1.30 or 2.0 to 3.30. In some of the towns soup, as in France, is given to the poorer children at lunch time.

The State has laid down a very full programme of obligatory subjects, and also one of optional subjects. The extent to which optional subjects are taught depends on the Communal Council, who are the judges of what the school programme ought to be. The State does not, as a rule, increase its subsidy to encourage teaching of optional subjects. If, therefore, the Communal Council wants them taught, it must force the teacher to carry out its wishes, either by offering him some additional salary, or by making it a condition of his appointment.

The following are the obligatory subjects—

1. Religious and moral instruction.
2. Reading.
3. Writing.
4. Arithmetic, and the metrical system.
5. Elements of French, Flemish or German languages (according to the locality).
6. Geography.
7. History of Belgium.
8. Drawing.
9. Notions of hygiene.
10. Vocal music.
11. Gymnastics.
12. Needlework (for girls).
13. Agriculture (for boys in rural schools).

All these subjects are begun in the lowest class except history, which is commenced in the intermediate standard.

The optional subjects are—

1. Geometrical forms and practical measurement, taught in 1,435 schools.
2. A second language, generally French, in schools where Flemish is the mother tongue, French is taught as second language in 2,685 schools.
3. Notions of citizenship and social economy, taught in 305 schools (for boys only).
4. Book-keeping, in 156 schools.
5. Domestic economy (for girls), in 891 schools.
6. Elements of physical science, in 597 schools.
7. Manual training (for boys), in 31 schools.

In the primary schools of Brussels, all these optional subjects form part of the obligatory course, in accordance with a decree of the Municipal Council.

The division of a school into classes is much the same as in France; there are three standards, of two years each on an average—lower, intermediate, and higher. The teacher is the sole judge of the classification and promotion of his pupils.

School Attendance.

There is no Compulsory Education Act in force in Belgium. The percentage of actual attendance to possible attendances was 77.6 for the school year, 1892-3. The attendance is generally better in winter than in summer. The number of pupils that pass through the higher standard is not considerable, in 1892-3, 24.6 per cent. of the pupils that left school had been through the complete course of studies.

School Inspection.

The inspection of Belgian schools is carried out by a staff of eighteen head inspectors and eighty district inspectors. Each head inspector presides over an area that includes the districts of three or four district inspectors. The mode of inspection consists, as in France, in observing the methods of the teacher and checking his observance of the regulations under which he works. Reports are made to the local authorities and also to the head inspector. In some Communes where there are several schools, the Commune appoints (and pays) one of its teachers to act as director of all its schools. This official is able to make frequent and lengthened visits, and act as a kind of head master of the schools of the Commune.

Teachers' Conferences.

Great importance is attached in Belgium to the teachers' conferences. These are held under the presidency of the head inspector where practicable, otherwise of the district inspector. All public school teachers are bound to attend, and the subjects discussed are purely those of professional interest. Particular teachers are called upon some time previous to the conference to prepare a paper on some question of methods of teaching; another teacher is warned that he or she will be expected to give a model lesson at the conference. Teachers are not allowed to decline these invitations. When the paper is read or the model-lesson given, the teachers present, according to seniority, are invited by the president to criticize or offer suggestions, and finally the head inspector sums up and gives his own appreciation of the subject under consideration. These conferences are held every three months; special conferences for kindergarten teachers have been lately instituted.

The meeting-place of these conferences is generally in some fairly important centre. In some of these centres the conference hall is provided with a scholastic museum, and in a great many with a scholastic library. There are 191 of the latter in Belgium; the books are chiefly on instructive and educational subjects, and the institution is used as a circulating library for teachers. It is noteworthy that many inspectors regret that the teachers do not avail themselves of these opportunities for improvement. The scholastic museums are thirty-seven in number, and contain physical and chemical apparatus, anatomical models, geometrical forms, and natural history specimens. They are supported by the State: model lessons in physics, with experiments, have been given in some of them for the benefit of teachers. It is needless to dwell on the advantages of such institutions.

The school material, reading-books, copy books, &c., are supplied gratis to the pupils by the Commune. The State and the province come to their aid by subsidies in this matter, the general arrangement being that the State contributes one-third of the expenses, the province one sixth, leaving the other half

at the charge of the locality. The same provision is made in the case of school buildings and school expenses.

Payment of Teachers.

The Government has fixed a minimum scale of teachers' salaries, below which the Communes are not

allowed to let them fall. All payments from the National Exchequer are made to the local authorities, who hand the money over to the teachers, according to the terms arranged with those latter. The basis of the scale of salaries is the population of the Commune. The following table shows the minimum of salaries:—

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TABLE OF MINIMUM SALARY OF TEACHERS.

		PRINCIPALS		ASSISTANTS	
		Male	Female	Male	Female
5th Class.	Communes of 1,500 population and under.	£ 48	£ 46	£ 40	£ 40
6th "	" from 1,501 to 10,000.	50	52	44	44
3rd "	" from 10,001 to 40,000.	64	56	48	44
2nd "	" from 40,001 to 100,000.	72	64	52	48
1st "	" more than 100,000.	96	88	60	48

There is no other addition to a teacher's emolument, but there exists a system of increments for good service. After each period of four years of good service the teacher has the right to an increment of £4. Installments may be given until his salary is £24 more than the minimum required by the law in such class. There is nothing however to prevent the Commune increasing it still more if thought desirable.

It would appear it is common enough, especially in rural districts, to leave the teachers' salaries at the minimum laid down by law. The average salary of a Belgian primary school teacher in 1893 was as follows:—

MALES		FEMALES	
Principal	Assistant	Principal	Assistant
£ s. d.	£ s. d.	£ s. d.	£ s. d.
64 9 0	62 2 0	63 8 0	58 16 0

The official report from which I have extracted these figures adds after them:—"We must remark that these averages are considerably increased owing to the intervention in the figures of a few well-paid posts in the large towns held by a small number of teachers." It will be seen therefore that the position of the Belgian teacher from a pecuniary standpoint is not one to excite much envy in the mind of his Irish colleagues.

In general there are no examinations for promotion in Belgium. Anyone of Belgian nationality, that has passed the examination for the Primary Teacher's Certificate may be appointed to teach in a public school. Principals must be appointed from teachers of at least five years' service. In Brussels the Municipality has recently started a system of differential classification with promotion by examination (as in Ireland), and many of the officials that I met were enthusiastic about it. The Primary Teachers' Certificate may be gained without examination also, by attending a course of lectures at any recognised training college extending over a period of two years.

Training of Teachers

Of the training colleges there are two kinds:—

(1.) Government Training Colleges, of which there are seven for males and six for females.

(2.) Private Training Colleges recognised by the Government, of which there are twelve for males and twenty-eight for females.

Nearly all of these institutions are boarding colleges. The course of training lasts three years (a new decree published this year established a four years' course), and pupils must be at least fifteen years of age on the 31st December of the year of entrance. The course of studies obligatory on all students embraces all the subjects mentioned above as obligatory or optional in primary schools, with the addition of (1) "Methods and practice of teaching and knowledge of the laws bearing on Primary Education," and (2) *Stenotypie* (a kind of course of penmanship and good writing). Practising schools are always attached.

The entrance examination includes the obligatory subjects of primary schools. Every half-year there is an examination—written, oral, and practical—in the work done during the preceding six months. At the end of the course there is the Leaving Examination in all the subjects of the course. This includes four parts:—(1) written, (2) oral, (3) practical, and (4) test in teaching. In the practical part of the examination, there are tests in housework (for males), domestic economy (for females), and vocal music. Marks are assigned for gymnastics, drawing, geometrical forms, manual training, and needlework, on a different system. The professors of these subjects are called upon to assign marks to each pupil, after the opinion they have formed of his or her progress during the classes; and, if they wish, the examining committee can call for specimens of the pupils' work of the year in each of these branches.

As nearly all the training colleges have well-tilled cottage gardens attached to them, it is in these that the practical test in horticulture takes place. The candidate is required to perform some piece of gardening work, giving at the same time an explanation with reasons of his procedure. In the practical test in domestic economy, cookery, ironing, or cleaning of kitchen-utensils or of rooms, may be chosen as the subject of the examination. In cookery, the pupil is obliged to do everything necessary for the appointed dish itself, nor does any other pupil make use of the grate or stove during the test except the candidate under examination.

Attached to the practising schools of training colleges there are generally higher classes where prepare pupils expressly for entrance and training. The pupils of these classes frequently take advantage of the training college workshop to get lessons in manual work.

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II. SUMMARY OF MANUAL AND PRACTICAL INSTRUCTION.

L.—KINDERGARTEN.

One of the most interesting features of the organisation of primary education in Belgium is the "Children's Garden" (*Jardins d'Enfants*), or Kindergarten School. These institutions are now very numerous in all the large centers of population, and special pains have been taken by the local boards, especially in Brussels and Antwerp, to keep them in a high state of efficiency. They follow very closely the well-known methods of Froebel, with some modifications calculated to put aside the somewhat scholastic cloak of mysticism with which he enveloped some of his "gifts."

The kindergarten is not regarded as a school in the ordinary sense of the word; the principal is styled a "head-gardener" (*Jardinier-en chef*), and the assistants simply "gardeners" (*Jardiniers*); the children are not taught, but their intelligence is developed by appealing to their inventive faculties, and by giving them suggestions which they would not receive at home or in the street. The great object of the kindergarten is to form good habits in the child—habits of observation, of order, of cleanliness, of taste for work, and of love for what is right. To store the child's mind with knowledge is regarded as a perversion of the objects of a kindergarten—indeed, this view is rather exaggerated, and the importance of cultivating memory (which has its use to a certain and substantial extent) is greatly overlooked. So far is the objection to mere knowledge carried that even reading and writing are rigidly excluded from the programme in most of these schools. Many still remain, however, especially in rural parts, where, in deference to the wishes of the parents, reading is taught to a slight extent.

The following extract from the official instructions for kindergarten schools shows the spirit of their working:—

"The object of the kindergarten is to prepare the child for school life, by giving it every care which its development requires physically, intellectually, and morally.

"To attain this end, what must be specially aimed at is the development of *free* and spontaneous activity on the part of the child.

"A child is not placed in an infant school to sit there inert for hours, passively receiving lessons and listening mechanically to lectures and exhortations. He must be moving; he must be consciously acting, not only by making use of his limbs and bodily powers, but also by exercising his mental faculties, and by giving free play to his natural emotions. This is activity.

"His actions must not however be a mere slavish imitation or an unconscious reproduction of what he sees done, but a creation, or at least a re-arrangement, springing from a distinct mental effort of his own.

"What he learns must not be acquired through an unintelligent appropriation of other people's knowledge, or a wearisome assimilation of words or things repeated ad nauseam; his notions should be the result of his own observation, of his own little practical experience. This is spontaneous activity.

"His little games and occupations must not be executed simply at word of command or by an authoritative invitation that admits of no refusal. We must so far as possible make them a thing which he desires, asks for, and really wants. This is *free activity*."

To put in practice these very excellent principles, the occupations take the following form:—

- (1.) Little organised games and physical exercises, generally with songs learnt by ear.
- (2.) Conversational lessons (conversations).
- (3.) Kindergarten occupations and gifts; the accomplishments of drawing.

Following from the lengthened visit which I paid on November 9th to the Kindergarten School of the Rue de Caron, Brussels, and the conversation which I had with the principal teacher, I should say that the most approved plan of building for a kindergarten school is that in which there is a round covered hall (*porche*) in the centre with three class-rooms and a lavatory directly radiating off it. From the porche also a door opens into the playground, beside which are the wood out-offices. Two of the class-rooms are furnished with broad low desks, quite flat, with rounded edges, and no oblonged squares or other holes. The benches are on each side, so that the little ones sit facing each other; this position suits them in their games, and the desk is too wide to allow them to touch each other. Three or four of these desks are sufficient to seat about fifty children. There are no galleries, nor do the pupils ever stand to draft circles. The central hall and the other class-rooms, which are without any furniture, are intended for the games in winter or in wet weather. Weather permitting, these are carried on in the playground. The authorities do not care to have more than 180 or 200 children in each school; a small school is more easily managed, and when they are close together, the little ones have not so far to walk. Every infant school I saw on the Continent was on the ground floor. The system by which two or three or more teachers give instruction to several classes in the same room simultaneously, carried on in every large infant school in Ireland, is not approved of. As a rule each class is in a separate room with its mistress, and without the addition of a class-room, apparently, a school cannot get an addition to its staff.

The children are admitted when three years of age, and leave about six years of age. They are divided into three sections according to age and general development. The school day lasts from 9 to 1.30, with a break from 11.30 to 1.30. The lessons are about half an hour in length; after each lesson the pupils go out to the playground or the hall for games and physical exercises, so that about half the school time is given up to these occupations. Here is a typical day's work for the three sections of a school:—

	FIRST (3 to 4 years)	SECOND (4 to 5 years)	THIRD (5 to 6 years)
8 to 9.	Arrival of children—occupations as to cleanliness.		
9 to 10.	Games.	Tablet-making.	Paper-folding.
10 to 11.	Drawing.	Games.	Games.
11 to 12.	Games.	Drawing.	Tablet-making.
12 to 13.	Paper-working.	Games.	Games.
13 to 14.	Games.	Tablet-making.	Drawing.
Interval for Recreation and Dinner.			
1.30 to 2.	Exercises with little sticks.	Games.	Games.
2 to 2.30.	Games.	Book-binding.	Paper-working.
2.30 to 3.	Clay-modelling.	Games.	Games.
3 to 3.30.	Games.	Coloured balls.	Pen-work.
3.30 to 4.	Inspection as to cleanliness, and departure of children.		

The time-table varies slightly for each day of the week, and the school is open every week-day.

The greatest attention is given to inculcating habits of cleanliness. Parents are informed that children will not be admitted to the school unless they are washed and brushed, and have clean underclothing; the latter must be renewed every Monday and Thursday. Before beginning school there is a careful inspection as to cleanliness, and children that are dirty are washed in the school lavatory. If a child persists in coming in a dirty state the parents are warned by the School Board that it will be excluded from the school. The Principal of the Rue du Canon School told me that these measures are very efficacious, and that the attendance is very regular.

The chief kindergarten occupations in use are those which figure in the Irish National Board Programme. These are all taught, however, to children under six years of age. The following are the principal:—

1. Froebel's six "gifts." There is no attempt to teach geometry when doing exercises with the "gifts," nor are primary and secondary colours ever alluded to. All is made as simple as possible for the child.
2. Tablet-laying—forms of beauty.
3. Paper-folding.
4. Paper-cutting, with scissors rounded at end.
5. Paper weaving.
6. Cardboard work.
7. Stick-laying.
8. Pea-work.
9. Wire-work.
10. Exercises with little rings.
11. Performing for embroidery—generally rather difficult forms of beauty on coloured paper, not outlines of animals or objects.
12. Clay-modelling—common fruits and easy geometrical forms.

Drawing lines of different lengths on checkered paper is also done, just as in our own infant schools. Its object is to teach observation, not drawing, and just as I noticed in France, all drawing experts here are against it. The head mistress of the important 17th Female School of Brussels, probably the best elementary girls' school in that city, told me that instead of bestowing any special aptitude for learning drawing quickly in those of her pupils who came to her from Kindergarten schools as compared with the other children, the case was rather the reverse.

The Conventional Lessons take the form of little stories and talks about familiar subjects, as home life, food and clothing, domestic animals, &c. The formal Object Lesson on the Dog, or the Sheep, with which we are familiar, is not approved of; still less that in which manufacturing processes are explained, such as the conversion of wool into clothing, or of calf-skin into leather; these appeal too much to the memory, and do little to the intelligence. The stories used are those representing everyday scenes of family life, or anecdotes borrowed from the national history or life in the country; these excite the curiosity of a little child, and are made the occasion for little stories, which the child is called upon to repeat afterwards in his own words.

The organised games that I saw played at the Rue du Canon were certainly a great success. The children appeared to enjoy them thoroughly, and at the same time excellent discipline and order were observed. In one of these games, for the youngest class, all the children had little coloured wooden balls, except one who stood in the centre. This game was called "The Cat and the Mice"—the child in the centre was the cat, and the coloured balls represented the mice. A little song was sung to the accompaniment of physical motions with the balls, at the end of the song every child had to conceal his or her ball from the "cat," all whose little efforts were directed to seizing a tiny ball that was not hidden from view. In other games the children had india rubber balls, bells, and other playthings—in all, a beautiful and interesting occupation was given to the little ones. Even though

the educational value of all this be not so great as many assert, at any rate the State is giving these children a happy infancy in clean, cheerful surroundings, and it is not surprising to find them looking from their squeaky homes and melancholy alleys to all the bright class-rooms of the "children's gardens."

The school stock and materials necessary for the Kindergarten School are supplied gratis by the local school authority. The same body also fixes the salaries of teachers, subject to a maximum fixed by the State; there is, however, no minimum in the case of teachers of infant schools. According to the last return available (1893), the average salary of teachers of public infant schools in Belgium in that year was about £45 of English money. Out of 1,329 teachers fifty-four had more than £64 a year. There is no fixed number of pupils in an infant school, which gives the right to a second teacher. In general there are not enough teachers, for in 1893 the number of pupils per teacher varied between sixty and sixty-five. At Brussels, the infant schools appear to be well staffed, at the Rue du Canon there were three assistants, besides a sewing-woman (*francise de service*), whose duties were to keep the school clean and well ventilated, and to aid in looking after the material wants of the children.

The city of Brussels has also a lady inspector specially to look after the infant schools. As there are but fifteen in number, this lady is able to visit each one at least once a fortnight, and give them all the benefits of advice and kindly inspection. Besides this supervision, the principal teacher must report every month to the School Board the state of her school and conduct of her assistants.

The teachers of infant schools are usually young teachers, that have just left the Training College; from the Kindergarten they soon pass into the better position of Elementary school teacher. There is a general complaint that the staff of these schools is not as good as it should be, and the Government has for some time promised to establish special courses at the Training Colleges for Kindergarten teachers. I was not able to see any course of the kind at Brussels, and do not think that any of them are yet set on foot. As the Training College practically nothing special is done for the subject; it occupies a small part of the course of methods of teaching, and three or four of the Training Colleges have Practising Schools for infants attached. On the whole, it would appear that their training leaves a good deal to be desired. I am told that the principal teacher of the infants' school gives her young assistants a good deal of help and advice.

In nearly all the Head Inspectors' districts conferences are held twice a year for the benefit of the infant school teachers. Almost all the public Kindergarten teachers, but very few of the adapted school teachers, attend these conferences. They are held at a convenient centre, under the presidency of the Head Inspector or District Inspector, and travelling expenses of teachers are paid to attend them. Teachers are designated beforehand to prepare a paper on some given subject, and to conduct a class of an infants' school in a given lesson in presence of the conference. Afterwards there is a general discussion and criticism by those present. The reports of Inspectors, both Head and District, all seem to bear witness to the great utility of this method of improving the teachers' efficiency.

Being curious to know how children who have had the advantages of kindergarten turn out when they reach the Elementary School, I asked the head mistress of the 17th Girls' School, Rue des Bix-Joies, Brussels, to let me know her opinion on this point. What she said about drawing I have already given above. With regard to general intelligence, she stated that, in her experience, pupils from Kindergarten Schools did not learn reading, writing, or arithmetic with more speed or less labour than those who had never been at school before. The advantages

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she found was that Kindergarten children had acquired orderly habits of school-attendance, of obedience, and discipline, which made their future advancement easier; on the other hand the total absence of *lessons* in a Kindergarten made the change to the serious work of the Elementary School a little trying at first for a child, and she would have preferred a little reading or writing in the Kindergarten.

I was unable to find any Primary School in rural parts where Kindergarten was taught, nor did I hear of its existence except in the few schools where manual occupations are regularly taught. It would appear that in Belgium there are generally Infant Schools close at hand and in connexion with Primary Schools, so that the infant population does not much resort to ordinary Elementary Schools.

II. AND III.—MANUAL OCCUPATIONS.

The system of manual training established in some of the Primary Schools of Belgium is based on a development of the Kindergarten gifts and occupations for the junior classes, and the continuations of woodwork on the Niss system for the senior pupils.

As in France and elsewhere the first attempt at manual work was made with a utilitarian object, as a beginning of trade apprenticeship. The city of Brussels established a workshop for wood and iron-work in one of the Primary Schools in 1874, the pupils did not seem to make much progress, and in 1884 this abortive attempt was abandoned.

The chief promoter of the present system is Mr. A. Kings, Director of the Brussels Municipal Training College, who visited Sweden in 1884, with a colleague, Mr. Van Kalken, and the result of their inquiries was the compilation of the present programme.

Programme of manual occupations (condensed).— LOWER STANDARD.

First Year.—1. Clay-modelling.—Spheres, cubes, and other simple geometrical forms; objects of real life, such as fruits, &c. Original forms of beauty.

2. Pew-work.—Construction of forms of two and of three dimensions; various forms of life and beauty.

3. Paper-folding and cutting.—Geometrical forms of two-dimensions, forms of life and beauty.

Second Year.—Revision and extension of work of first year.

INTERMEDIATE STANDARD.

Third Year.—1. Clay-modelling.—Extension of work of first and second year.

2. Cardboard work.—Making geometrical forms of two and three dimensions in cardboard, with scissors, knife, and gummed paper. Ornamentation of objects made by means of coloured paper, so as to develop taste for harmony of colour.

Fourth Year.—1. Cardboard work.—Cutting-out and putting together more advanced applications of geometrical forms and useful objects, as pencil-box, match-box, &c. Ornamentation as before.

HIGHER STANDARD.

Fifth Year.—1. Cardboard work.—More advanced work.

2. Wood-work.—Beginning of wood-work. Copies of a graduated series of objects.

Sixth Year.—1. Cardboard work.—More advanced work.

2. Wood-work.—Further graduated exercises. Detailing and mortice-work, with T square. Putting together of objects consisting of several parts.

Side by side with the manual occupations, there is a course of lessons in *Geometrical Forms*. These lessons are given with the aid of geometrical figures, such as the cube, sphere, cylinder, &c., made of wood or cardboard, and the various properties of straight lines, surfaces, angles, and solids are demonstrated. Instead of beginning, as Euclid does, with points and lines and proceeding onwards to solid figures, the lessons in *Geometrical Forms* reverse the process, and, starting with figures of three dimensions, proceed downwards to straight lines and their measurement. The advocates of this system say that in this way the pupil is first introduced to the concrete, which must have three dimensions, and from that goes on to the abstract, represented by surfaces and lines, which are merely abstractions, being part of a solid figure considered separately.

Where manual occupations are taught the cardboard work is a great help to the teaching of geometrical forms, as, when a pupil actually makes for himself, in cardboard or in wood, a geometrical figure, his observation and intelligence are appealed to in a far greater degree than when he sees it in the hands of the teacher or represented on paper.

In wood-work and, to a certain extent, in cardboard work, the figure made by the pupil is always a copy of some useful object placed before him. As in France, the necessity of combining drawing with woodwork is insisted on. Before starting to work, the pupil must take his copybook and draw a plan of the object he is about to make. He then transfers the plan to his rough piece of wood, and starts with saw and chisel to fashion out the object. The procedure is the same for cardboard work. The copybooks I saw in the hands of pupils did not differ much from those I saw in Paris.

There are, however, several material points of difference between the Belgian and the Paris system, and as I discussed these points with their partisans both in Brussels and in Paris, it may be useful to recapitulate them here.

(1.) There is no iron-work in Belgium; it is said to be laborious, mechanical, and uninteresting, and does not lead itself to the production of any useful objects. The work in iron-ware and the thin iron (tôle) does not seem open to this objection.

(2.) Artisan-masters are not employed in Belgium; they are said to have no capacity for teaching, and even in some cases to have a demoralising influence on the pupils. In Paris they are not asked to teach, and due care is choosing them and attention in supervision have prevented these drawbacks.

(3.) In Belgium the pupil always makes his object from a model placed before him, which he measures and draws in his book. The Paris boy draws his plan from a careful sketch by the teacher on the blackboard. At Paris they dare to teach the boy to translate a drawing into an object, and they assert that it is far too difficult for a boy to make an exact plan of an object first, nor is it easy to show him that his plan is strictly accurate. They occasionally copy from a model in Paris.

(4.) The Paris system chooses for its exercises a graduated series of combinations of straight lines, angles and circles of a difficulty of execution that increases imperceptibly, and only makes use of a common object as model when its form is precise and capable of being easily measured. In Belgium they always take an actual object as model, on the ground that it is more interesting to the pupil. The Parisians assert that there are very few common objects that can be adapted to developing precision, as most are of a more or less voluntary form, and cannot be well used so as to inculcate exactness in taking measurements. Again, most require the use of a round surface, which is very difficult to measure accurately.

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tured implements, &c.) and in a hundred ways a handy teacher will be able to make a quantity of little wooden objects that will be of use for object lessons.

Vocational lectures for teachers have been given at three or four centres during the past few years. The numbers that have followed these courses are not very great; in 1892, 70 teachers altogether took part in them, and in 1893, 103. Two years are necessary to go through the whole programme of these lectures, the full time given being 200 hours, nearly half is devoted to woodwork. Of course, the instruction is practical, with lectures on the pedagogic side of manual training.

IV. PHYSICAL EXERCISES.

The games organised in the Kindergarten Schools have already been described. The obligatory list of subjects comprises gymnastics in all Primary Schools, and in the city schools of Brussels very extended exercises are carried out two or three times a week. Generally the various classes take advantage of the central hall (*gymnase*) in turn. In the rural schools a little drill in the playground is ordered on top a few minutes and pupils march to signals on entering and leaving the classes. The pupils in Continental schools have more need of these exercises than Irish boys and girls, as the system of standing at draft circles is unknown, and all lessons are given to the pupils in the desks.

V. DRAWING.

The programme in drawing, which has been an obligatory subject in all Primary Schools for many years past, underwent a complete change in 1893. The new method, known as the Tessé method (after its principal exponent), was imposed on all schools as far as practicable, and as the teachers were in complete ignorance of it, the Government had to find some means of instructing them. The following plan was adopted:—

In the first place, two Elementary School teachers were selected (of course, those chosen had special aptitudes for drawing), from each of the head inspectors' districts (rightly in number), to attend a special series of lectures given by M. Tessé, at the Government Training College at Mons. These lectures were also attended by the drawing professors of the other training colleges. The course of lectures took place during the school vacation, in September, 1893, and lasted three weeks, there being two sittings every day, morning and evening. In these lectures M. Tessé gave a complete *exposé* of the new method. At the end of the lectures a special certificate was delivered to every person that followed the course, the number of men present being fifty-seven.

The Elementary teachers that had followed the lectures, having returned to their schools, proceeded to give weekly lessons on the new method to the teachers of their neighbourhood. The latter were obliged to attend these lectures, and the course extended over about nine months, and included some thirty lessons, the teachers that gave the lectures being specially paid for the work. It is yet too soon to judge of the success of this plan, but those with whom I discussed it spoke favourably of the results.

Since 1893 holiday lectures in drawing have been given for teachers in three or four of the training colleges, and appear to have been fairly well followed.

The fundamental idea of the new method is the entire suppression of copying from the flat, and the substitution of copying from nature, from the very beginning of the child's drawing exercises. Drawing being essentially the reproduction, on a flat surface, of the real or apparent form of objects, of which a clear perception has been previously acquired by an analysis carefully reasoned out, copying from the flat is not real drawing, but merely an imitation of an imitation, and, therefore, the direct observation and analysis of

form, which make such a useful mental exercise, are almost suppressed. The teacher must then, from the very beginning, teach drawing from objects placed before the children's eyes, or, in other words, drawing from nature.

Drawing from nature may be of three kinds, outline, perspective, and shading. The programme for Belgian Primary Schools contains no shading. There is no perspective taught until the Intermediate Standard; for the first two years, therefore, only the outlines of objects are drawn without perspective. Perspective is first taught to a class that would about correspond to third or fourth classes in Irish National Schools.

In the lower standard the objects copied are in the first place combinations of straight lines made with the sticks or straws used in the Kindergarten exercises.

The outlines of the doors, windows or any other linear objects in the schoolroom are also used as models. The elements of geometrical drawing (with set instruments) are also taught to this standard; children are exercised in dividing a straight line into two, four, eight, or more equal parts, to make squares, rectangles, equilateral triangles, &c.; always, judging the distances laid by the eye, and then verifying by measuring with slips of paper. The compass and square are used in higher classes, but not to a great extent.

In higher classes plaster casts in light relief of conventional forms of ornament are used (no shading is required), also water-bottles, jugs, &c., are copied in outline. The geometrical basis of these forms is carefully explained, and before drawing anything, the necessary drawing tools are discussed. In perspective the general meaning of perspective is first explained by drawing the pupils' attention to common objects, such as a row of telegraph poles along a road or a row of trees, &c., &c., until he grasps the distinction between the real image he has in his mind and its apparent form as actually seen by the eye. The first exercises are in drawing the cube, circle, and rectangular parallelepiped at various angles in vision. To teach these are made of the perspective frame with movable slat (called *perspectif à table mobile*). This is, I believe, used in England, but I never saw one heard of one in an Irish school. The idea of this instrument is a square piece of card-board or metal, with a movable frame revolving about one of the sides. By this means the face of a cube seen at any angle is brought into direct contact with the fixed face seen from it front by the spectator. Simultaneous lessons cannot easily be given with these, unless every pupil can be provided with one of them, and of course, when the frame is placed before a class every pupil sees it at a different angle, according to his position.

Besides these exercises there are also others in drawing from memory and original design. The method employed is similar to that which I have mentioned in the report on drawing in France.

Coloured crayons are also used occasionally, especially in connection with the lessons in Geometrical form in schools where this subject is taught. Two pieces of thin coloured paper superposed are used to show the formation of secondary form from primary colors. The crayon exercises are limited to ornamenting geometrical forms by coloring them harmoniously.

As I have had occasion to state more than once in the report on France, chequered paper is only mentioned to be condemned. It has been found a positive hindrance to successful freehand drawing.

VI. AND VII. SCIENCE AND AGRICULTURE.

The teaching of agriculture has been obligatory in rural schools in Belgium for the last fifteen years. For the town schools a programme in Notions of Natural Science has been drawn up to correspond to the agricultural teaching in the country, but it is not obligatory. As a rule, however, most city schools have the subject in their course, and the number of

boys' schools that teach neither science nor agriculture is small.

In Elementary Science the course is very similar to that adopted in French schools, and in general the same text-books (especially those of Paul Bert and Gaston Bonnier) are used. Some of the most important schools have scientific apparatus for use in experiments, but in general experiments are not made, object lessons are given, and in the large towns the pupils often pass an afternoon in visiting a museum of natural history or a factory, accompanied by their teacher. That there are very simple experiments in physics practicable in small Primary Schools, is beginning to be recognised, and I had the advantage of visiting a boys' school at Uccle, just outside Brussels, where the teacher has been able to perform many simple scientific demonstrations for his pupils, especially in connection with agriculture. Some account of what I saw at this school may prove interesting.

Though quite near Brussels, Uccle is almost a country village, and the fields about the school are laid out in market-gardens and in tillage. The boys' school has three teachers, with an attendance of about 150 pupils. Adjoining the school is the residence of the principal teacher, and behind is the garden of about half an acre, well cultivated with vegetables, flowers, and fruit trees. The teacher makes use of the garden in all his agricultural instruction, and the various processes are shown to the pupils in it at the proper season, generally in the last hour of the school day. For the lower standard the teaching in gardening consists merely of a few conversations about the chief vegetables and fruits, various garden tools, and common insect pests and weeds. For the higher standards more precise instruction in the methods of growing the various crops is given. It will be noted that horticulture and agriculture get the chief share of attention; next in importance come the ordinary farm crops, questions of manure and drainage, but the subject of live stock is not nearly so well treated, nor did I anywhere find a teacher that kept any kind of live stock to illustrate his teaching. Of course, in a country like Belgium, so noted for its tillage, the rearing of live stock is of secondary importance.

But what struck me most in the instruction given at Uccle was that the teacher was not satisfied with merely showing the best methods of tillage, but he also used all his ingenuity to devise simple experiments to demonstrate the causes for the various processes used. Though Elementary Science was not one of the subjects on his school programme, yet he was compelled, he told me, to fall back on some teaching of science, as he found it impossible otherwise to explain the reasons of his methods of gardening. On the day that I was there he had been showing the boys the necessity of breaching a garden plot in winter. To illustrate the reason of this, he told them that, when trenched, a greater surface of soil was exposed to the air, simple as this fact appears, five out of ten boys will accept it as a fact and learn it off by heart, without understanding exactly the reason of it. As a simple demonstration, the teacher got a long piece of wire and, by bending it in an undulating form, showed that a great deal of it might be put into a very short length. In my ramble also, he made a mechanical analysis of earth, all his materials being a sheet of brown paper, a basin of clean water, and an old medicine bottle. He sent a lad out to the garden for a lamp of clay; he then put some of the clay with water into the bottle, and shook it up, after allowing it to settle he poured off the muddy liquid, leaving a residue, more or less pure, of siliceous. By means of some hydrochloric acid, the properties of which he had explained on a previous occasion, he demonstrated the presence of calcareous matter in the soil, and similarly for the other constituents. The school stove furnished the means of separating the volatile from the fixed constituents.

He showed me also simple methods of demonstrating atmospheric pressure, the necessity of oxygen for plant life, the properties of porosity and capillarity of liquids, and a number of other physical properties. In cases round the school-room he had some common insects and stuffed birds. On the very morning of my visit, a boy had brought him in a squirrel (dead) which his father had caught the evening before. Several of the senior pupils had copy-books, in which the various parts of an ordinary flowering plant were gummed in, with their names written beside them.

It appears that this teacher was one of 100 chosen from the different districts of Belgium in 1880 to attend lectures at the Agricultural College of Jambloux, with a view to introducing agriculture into the Primary Schools, much on the same lines as had been done two or three years ago for drawing. Having spent his summer vacations from 1880 to 1882 attending lectures on agriculture at Jambloux and at the Antwerp Training College, he then returned to his own district, and gave lectures about the neighbourhood to teachers' classes. There was a weekly lecture, and the course included thirty lessons. His manner of educating the teachers seems to have been very successful; it had the advantage of interesting 100 of the best teachers in the new subject, and they used their influence with their colleagues, naturally enough, in favour of that subject. There are vacation courses in Agricultural and Experimental Chemistry every year at three or four Training Colleges, including those of Ghent and Liège, but they do not appear to be very extensively followed. The students in training also get very full instruction in the subject, but the question of Agricultural Experiments has not yet received adequate attention.

VIII.—SEWING.

Sewing and knitting are, of course, obligatory in all girls' schools. Four lessons a week are generally given to the subject; these are three-quarters of an hour in length in the Lower Standard, and an hour for the Intermediate and Higher. The general programme does not differ very essentially from that taught in Irish National schools.

Lower Standard (corresponding to our first and second classes).—Knitting on two and four needles; making wristlet, garter, and leg of stocking.

Except in city schools, there is no sewing for this standard.

Intermediate Standard.—1 Revision of previous work.

2 Knitting of a stocking, study of the relative proportions. Stocking to be entirely finished.

3 Study of cross-stitch on canvas.

4 Running, hemming, back-stitching, top-sewing, first done on canvas.

5 Cutting-out and making-up of easy articles—towel, napkin, handkerchief, apron, woman's shirt.

Higher Standard.—1 Revision of previous work.

2 To knit a jersey.

3 Marking linen, letters and figures.

4 Gathering, button holes, eyes on linen for hooks.

5 Patching and darning of linen, darning of stockings.

6 Cutting out and making-up easy garments, particularly shirts and boleros.

The simultaneous method of teaching is always practised. In sewing all articles are first taught on canvas. The teacher has a large wooden demonstration frame with thick twine woven across it to represent the material, a big needle, and thick coloured woollen thread. The minute details and the various steps in a stitch are carefully shown to the children, who are called up to the frame one at a time to execute them before the class. When the pupils understand the stitch, they take their canvas pieces and all

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go through the different steps, very slowly, simultaneously with the mistress. If, for example, the stitch taught has three distinct steps, at the word "one" all the children do the first step, at the word "two" the second step, and so on. When they are accustomed to the stitch, they are allowed to sew away as fast as they can, whilst the teacher walks round the class, and corrects mistakes or bad methods of holding needle and thread, giving in fact individual instruction. The same system holds for knitting. The teacher has two sticks to serve as knitting-needles and thick wool. Each operation is analysed, and the different steps gone through simultaneously by all the pupils until they are perfect. I saw two admirable lessons of this kind given at the 17th Girls' School, Rue des Six-Jétons, to classes of over 40 pupils.

In cutting out the measurements are taken by one pupil from another before all the class. The pattern is drafted after the measurements on a reduced scale (always a single scale—one half or one-fourth) in the drawing book, then cut out in thin paper on the true scale, and finally in the material. A careful plan of every article is made on one side of the drawing book, the article is cut out to the same scale in thin paper and pasted in the book, on the opposite leaf, so as to show how the parts correspond with the sketch.

The drawing lesson is utilised (as in French schools) to develop originality of design for the drilling on the front of a bodice or on the leader of a petticoat. The pupils are made to take one of their finished copies—it may be a conventional flower or ornament, or other such symmetrical figure. By the repetition of this figure along a straight or curved band an ornamental border is formed; this is drawn on the sketch of the garment in the drawing-book, and then copied in back-stitch or cross-stitch on the garment itself. After a little practice of this kind the better pupils are often able to produce truly original designs.

The necessary materials are supplied gratis at the cost of the Municipal Council: each head-mistress deposits of a fixed sum per annum for school stock—in Brussels it is 14 francs (1s. 3s.) per pupil in average attendance. It would appear, however, that in many districts the teachers complain that a sufficient sum is not placed at their disposal to supply the materials required. Garments made are either given to the poor, or taken home by each of the pupils as may happen to be in needy circumstances.

In the Female Training College two or three hours a week are given to needlework. The simultaneous method of teaching is also employed there. Besides the needlework required for the Primary School programme, more advanced cutting out and darning, the use of the sewing-machine, crochet-work, and a little fancy needlework are also taught. In the last year of the course the students get precise instructions in methods of teaching needlework, including the application of drawing to cutting out.

HOUSEWIFERY SCHOOLS.

There is no phase of popular education in Belgium more remarkable or more interesting than the development of instruction in household duties for girls, which has been taking place during the last seven or eight years. Unfortunately the time that I was able to devote to studying primary instruction in Belgium was so short that I could not find adequate opportunities for visiting more than one of these practical schools, namely, the Technical and Housewifery School of the Rue Terrenove, at Brussels. I have had, however, an interview with M. Eugène Rombaut, Inspector-General of Technical Schools, who is practically the organizer and creator of these institutions, and to his kindness I owe the following details that I have collected about them. For twenty years past M. Rombaut has been the right hand man in the Technical Education movement, which has now attained such striking proportions in Belgium.

The considerations that have determined the substitution to foster Housewifery schools, are social

rather than educational. The avowed object is the improvement of the condition of the working-classes. They are a part of the temperance movement. It is recognized that the working man frequents the public-house and takes to drink sometimes because his wife, in her ignorance of household comforts, makes home-life a torment rather than a consolation. To fill this gap, to educate the future wife and mother in all the cares and duties of her position, this is the programme which the Housewifery school has marked out for itself. Its aim is not to send out girls whose skill in cooking and household work will quickly gain for them an unenviable position as domestic servants—such a result would be a perversion of its utility. In everything the pupils are taught such duties as befit their humble station, the exact circumstances of the working-man's daily life and the length of his purse are taken into consideration, and nothing luxurious or nothing that would tend to promote a style of living beyond his slender resources, is permitted. The mother would at first sight seem to be the fit person to teach her daughter housekeeping. In the majority of cases she is not available, as it is a common thing for married women to work in factories in the industrial centres, where she is available her ignorance must often prevent her being of much use. The school is therefore the only remedy.

There are several classes of schools that teach Housewifery, differing more or less in their organization and sphere of action. There are—

- (1) Technical and Housewifery Schools, of which there are six in all Belgium. These are continuation Schools, receiving pupils from the ages of 12 or 13 years, and in which the Housewifery instruction is an appendage to the Technical side, which is the more important part of the school. The school of the Rue Terrenove, Brussels (visited by me on November 12th), is of this kind. The course is of three years' duration.
- (2) Housewifery and Technical Schools, there is only one in Belgium. These are very similar to the first kind, but the course only lasts two years, and more time is given to practical work. Pupils enter at 14 years of age.
- (3) Housewifery Schools, 225 in number, organised in three different ways—
 - (a) Housewifery Schools proper, receiving pupils of 13 years of age, for a single year's course.
 - (b) Housewifery Schools for adults, for pupils from 14 to 39 or more years, one year's course.
 - (c) Housewifery classes attached to Primary schools, frequented by the pupils of the Higher standard, two years' course.

Besides these arrangements for teaching Housewifery I found at Brussels a system in which the pupils of the Higher standard (fifth year only) of the Primary schools came to receive practical instruction at the Technical and Housewifery School of the Rue Terrenove in turn for a week at a time.

In the Housewifery Schools proper (a) lessons are given generally every day, both morning and afternoon, in some localities, however, only four or five days a week.

In the schools for adults (b) lessons are given twice a week, on Sunday and on some evening during the week, each lesson being 3 or 3½ hours in length.

In the classes attached (c) two lessons are given weekly (Wednesday and Saturday afternoons) of 2½ hours each to the pupils of fifth and sixth years (Higher standard).

The programme taught in these schools comprises—

- (1) Lessons in *staple*—notions of hygiene and domestic economy and treatment of infants and sick persons.

(2.) *Practical lessons:—*

- (a) Cleaning of houses and furniture.
- (b) Washing and ironing linen.
- (c) Needlework, mending and mending of ordinary garments.
- (d) Cooking.
- (e) Kitchen-gardening and poultry-keeping (in rural schools).

In the needlework exercises nothing beyond the making and mending of ordinary garments, such as aprons, is constant use by the working classes, is taught, and pupils are requested and encouraged to bring their worn clothing that requires patching. No extraordinary or fancy work of any kind is done. It is interesting to note that the earlier housewifery classes broke down and had to be closed owing to the fact that they degenerated into mere needlework classes.

In the cooking classes the greatest importance is attached to economy, and prices of food are carefully studied. At every class the means of an ordinary meal is prepared, consisting of three dishes, soup, vegetable, and a bit of meat, fish, or fowl. Before setting to work the cooking class goes to market, and the food for the meal is bought by the pupils, under the supervision of the teachers, and a list of the (2d) per head is kept. The cooking class consists at least of six pupils, this being the number of persons in an average family, and 11 50c. (1s. 3d.) is the maximum cost of the meal. M. Roubaud assured me that he had drawn up 3,000 menus of three dishes each, no one of which would exceed that cost for six persons. The secret of this economy seems to be a careful attention to choosing only food that is in season at the particular time, the purchase only of the cheaper portions of meat, and the greatest care in avoiding waste. Drizzling always takes the place of butter in this cooking, an arrangement that would scarcely be tolerated in France. Thirty such menus form the cooking programme of the year.

Twenty-four pupils is the highest number assigned to one teacher in a housewifery class or school. These are divided into drafts of five or six pupils each, and each draft takes up a different subject, which it does not leave and change for another until a week has been given to that subject. Two class-rooms are almost indispensable, one of which is devoted to needlework and ironing, and the other to cooking, washing, and cleaning of furniture and kitchen utensils, &c.

The Government has found by experience that it is far better to entrust the charge of a housewifery school to a trained teacher who is not above practical work, than to an ordinary cook or woman belonging to the working class (*femme du peuple*). The latter has been found incapable of keeping discipline, and who to be without habits of order and method, without which no teaching can be successful. A thoroughly competent teacher appears to be an indispensable element in the success of these schools.

The great difficulty that the promoters of housewifery schools have had to struggle against is the irregularity of the attendance. They have long since recognised that it is not the pupils in the higher standard of the Primary School that it is most advantageous to instruct in household duties, but rather the elder sisters, between fourteen and twenty, and this is precisely the age when it is most difficult to secure their attendance. Very often the mothers have been the chief opponents of the school, for they have grown jealous of the household skill acquired by their daughters. Often, too, the father is not slow to perceive the difference in his conduct, owing to the new accomplishments of his daughter, and this has led to disagreement and quarrels with the mother. The instruction was at first everywhere free, but it has been found that the exhorting of a small fee (five or ten francs) has had a most beneficial effect on the attendance; the fees of those who stay away are confiscated, and at the end of the year all the school fees are

divided amongst the pupils in sums proportionate to the regularity of attendance. Many teachers bear witness to the improvement effected by this means.

As these schools and classes are not under the Education Department, but under the Minister of Industry and Public Works, the officers of the two administrations find themselves in a position of co-ordinate authority in reference to housewifery classes attached to Primary Schools. This dual control seems to have given rise to certain disadvantages, and I am told that the Public Works office is desirous of giving over the classes entirely to the Education Department. The opinion is gaining ground that the classes attached to the Primary Schools are not of much utility, partly on account of the youth of the pupils, whose strength is not equal to household work, and whose literary studies are seriously interfered with by the demands upon their time necessitated by these practical exercises. These classes, indeed, appear to have been started rather with the idea that they would act as a sort of decoy to entice the elder girls, who had left school, to return to the housewifery schools, when the bigger girls saw their little sisters able to do a little mending and cooking, &c., it was expected that the feeling of emulation would make them desert themselves of gaining this knowledge. Each side has its partisans, and there are some who maintain that the Primary School is the place for practical work, but the fact remains that at the present moment, in the opinion of M. Roubaud and his colleagues, this system is condemned, and only tolerated as a *paraver*. In their view, thirteen is the earliest age at which it is advisable to teach practical housewifery; pupils of the higher standard of Primary Schools are, it will be remembered, eleven or twelve years of age, and generally leave school before thirteen.

It was in 1882 that the Government, principally at the instigation of M. Roubaud, took in hand the reorganisation of housewifery schools, and obtained from Parliament the necessary grants. In a circular to the Governors of the various provinces the Minister of Public Works explained the organisation of the new schools, and requested the active co-operation of the Governors, in order to form local committees. These committees were to take the project in hand, find the buildings, and instal the schools, and the Government arranged to give a grant amounting to two-fifths of the initial expense. The rest was put on the province and on the Commune, and a little was got in by private subscriptions. According to the satisfactory reports of its inspectors, the Government continued its subsidy of two-fifths of the annual expense, in the case of classes in connection with Primary Schools, the grant was only one-third of the expense. Of course, the same teacher and the same school-house were sufficient for the evening and Sunday classes for adults in the majority of cases.

The cost of a housewifery class varies from £14 to £32 per annum, that of a housewifery school from £60 to £80. In the former case the ordinary teacher gives the instruction, and receives an allowance varying from £16 to £15 for doing so; in the latter all the salary of the teacher is at the charge of the housewifery school. The materials necessary, food for cooking, needlework pieces, &c., are supplied free to the pupils, but in general they bring their clothes to be patched, and linen for washing and ironing, and get the work done at the school.

It remains for me now to speak of the arrangements which have been in force at Brussels for the last two years, and which I saw working at my visit to the school of the Rue Termonie.

The girls belonging to the sixth class (second year of higher standard) of the public Primary schools of Brussels are divided into two groups, one consisting of the pupils of four schools in North Brussels, and the other containing those of six schools in South Brussels. In each group there are about 300 girls. The North Brussels group receives practical lessons

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in housewifery at the Housewifery School of the Rue Looqenghien; the South Brussels group goes to the school of the Rue Terrenure. Each group is divided into eight drafts of 50 pupils each. Each draft spends a week in turn at the Housewifery School, that is to say, during a week the pupils go to the Rue Terrenure (for example) instead of their own school. The turn of each draft comes round about once every two months, so that each gets five weeks of practical work in the year. For the use of the rooms and the services of the teaching staff the City School Board pays a sum of £150 a year to the school of the Rue Terrenure. As this school was not flourishing by doing its own particular work, the new arrangement was partly inspired by a wish to help it out of its difficulties.

The lessons given to these Primary school pupils include cooking, washing, ironing, and cleaning of household articles. The pupils are divided into classes of ten or twelve each, and their various exercises are carried on simultaneously. The pupils bring their own linen and clothes for the washing and ironing, and take them home for Saturday. It will be noted that throughout these arrangements the importance of spending a number of days consistently at practical work is insisted on. A couple of hours a week throughout the year is not considered of nearly so much utility as a week at a time once every two months.

At the Housewifery School of the Rue Looqenghien, there is an evening class for adults twice a week, on Mondays and Thursdays, which was followed last year by 38 girls. The regular Housewifery classes, open every day, have an attendance of about 32 pupils. This school, therefore, gives Housewifery instruction to three distinct groups of pupils, viz. (1) those from Primary schools, (2) adults in evening classes, and (3) its own Housewifery pupils, aged from 13 to 15.

In all the Brussels Primary schools for girls, theoretical lessons in Domestic Economy are given to the Higher Standard. I assisted at a class at the Primary Girls School, No. 11, Rue des Six-Jetons, on Nov. 10th. The subject matter of the lesson was useful to that usually given in a good Irish school to girls of Sixth Class under the Industrial Programme.

The subject is optional in girls' schools in the Government programme, but is obligatory in all Brussels public schools by decree of the Municipal Council. It is taught in 391 girls' schools in all Belgium, according to the last return (1896).

Notions of Hygiene are obligatory in all schools.

An hour a week is given to the subject. In the Lower Standard the teaching consists of a few simple conventional lessons about personal cleanliness, ventilation, drinking water, precautions necessary against heat and cold, wet, &c. In the other standards conventional hygienic lessons are given, and especially the danger of intemperance are insisted on. A great crusade against alcoholic abuse has recently been started in the French and Belgian schools.

In Brussels a wonderful amount of attention is given to medical supervision in Primary schools. For a number of details on this subject I am indebted to Dr. Janssens, who presides over the Municipal Health Department. Important as the subject is, I do not feel it within the scope of my inquiries, so as to enlarge upon it here.

At the Training Colleges for girls both theoretical and practical lessons in Domestic Economy are given. About 14 hours weekly are given to practical instruction in Cooking during the 3rd (last) year of the course. I assisted at a practical lesson at the Female Municipal Training College at Brussels. Nine of the class took part in the Cooking, the rest, about 30 in number, sat in a gallery and listened to the explanations given by the teacher. Every opportunity of explaining theoretical principles by reference to the practical work is utilized, e.g., the effects of boiling on the fibres of meat is demonstrated in a practical way to the students. Thus a little done except in the Training Colleges; such theory as not regarded as practicable in the Housewifery schools for the people. As usual, a dinner of three courses was prepared, and partaken of afterwards by those who acted as cooks. There is a severe practical test in Cooking at the Leaving Examination, and Certificates for Housewifery are bestowed on the successful candidates.

Having mentioned the Industrial Programme for Sixth Class girls in Irish National Schools to M. Bouchart, he told me that its worst of success was easy to explain. The long wearysome course of two hours' Needlework and the dry lessons in Domestic Economy learnt by rote from a text-book without ever a practical demonstration, were, in his opinion, sufficient to disgust the pupils, and drive them away from school. The same kind of experiment, he said, had been tried in Belgium some years ago, with fruitless results.

A. N. BONAPARTE-WYSE,

District-Inspector of National Schools

Dec. 4th, 1897.

SUPPLEMENT TO THE FOREGOING REPORT

DIARY OF Mr. BONAPARTE-WYSE'S work in FRANCE and BELGIUM.

Mr. Wyse's
 Diary.

I arrived in Paris on Sunday, October 17th, 1897, and commenced my inquiries on the following day with my colleague, Mr. Hughes-Dowling. As the schools of Paris are by far the best managed in France, and the most advanced in regard to manual training, we worked together there until the 29th October. I then visited the following centres, viz. Caen, Rouen and Lille, and spent a week in Belgium, from November 7th to 14th.

As the more important results of our inquiry have been rather fully dealt with in the joint Report on France, and in my own Report on Belgium, I have not thought it necessary in this diary to do more than briefly indicate the main facts that took my notice about the schools and places visited.

October 19th, Paris.—Visited, with Mr. Hughes-Dowling, the Elementary Primary School of the Rue Tournefort, Paris. This school is known as the

"Ecole Salicin," after the late M. Salicin, who was the prime mover in introducing manual training into France. In 1873, the first workshop for manual instruction was opened in this school under his direction, and from it the movement spread. The first object that strikes the visitor is a bust of M. Salicin (who died in 1889) in the courtyard; then one notices numberless samples of woodwork that adorn the walls.

The school is an ordinary primary school for boys, with an average attendance of about 350, under the charge of a Director (or Principal Teacher), M. Alphonse Baudrier, and five Assistant Teachers. There are five classes, distributed as follows.—

- | | |
|--|---------------------|
| I. Higher Standard (all pupils)—about 45 percent | } about 100 percent |
| II. Intermediate Standard (second year) | |
| III. Intermediate Standard (first year) | |

IV. Elementary Standard (second year).	} about 110 present.
V. Elementary Standard (first year).	

The Director does not usually teach, but superintends. Each teacher has his class in a separate room where there is desk-accommodation for about fifty pupils. The teachers were in separate class-rooms in every school I visited. When a school is built, class-rooms are provided on the estimated attendance, allowing fifty for each class. The staff will not suffer diminution or increase according to small variations in the average attendance.

The installation is not very good here, as the house was originally a private residence, and in no way intended for a school. The class-rooms are small and overcrowded.

We met here, by appointment, M. Jolly, Inspector of Manual Training to the Municipality of Paris, and as great part the outline of the system followed. The programme of manual training followed in this school is similar to that in other Paris schools, the only difference being that here no hour extra is devoted to the subject every week;—the final experiments having been made here, it is treated as of more importance.

We first visited the fifth or lowest class, first year of elementary standard, average age of pupils, seven or eight. The teacher was giving a lesson in paper folding. Every child had a rectangular piece of thin colored paper (about 4 in. by 6 in.). The teacher established, by reference to the paper, the meaning of horizontal and vertical lines; to illustrate the former he compared the position of a ship in water to a boy lying in bed, for the latter he made boys show various vertical lines in the room, such as the leg of the teacher's desk, or side of blackboard. Then the paper was folded in two, great exactness being insisted on, and the four sides were discussed, right angles (the junction of horizontal and vertical lines) explained. It seemed very clearly done, and the children paid great attention. As the school year began on the 4th October, we naturally saw one of the opening lessons.

Next we saw the fourth class (second year of elementary standard). Here each child had a copy-book, in which he had, just before we came in, pasted with gum a combination of paper in two colours, showing the meaning of the expression square, diagonal, and the equal triangles formed by the diagonal of a square. By folding the paper the equality of these triangles was clearly demonstrated to the child. Children also had a measure marked off into centimetres, but did not seem yet to have mastered the practical use of it. It was only a fortnight after the holidays, however.

We saw a class, a draft of the higher standard, at clay modelling in a class-room. There were eight or ten of them copying a very simple square pattern, consisting of a combination of straight lines in slight relief. This lesson was given entirely by the class-teacher. Each boy had a large spoon, furnished him gratis by the school.

Next we visited the workshop. This is a rectangular room, with a forge and other appliances for ironwork at one end, and wooden benches (for two pupils each) at the other. In all there was accommodation for thirty-six pupils,—twenty-four for woodwork and twelve for ironwork. Its arrangement was not typical, I was told, at the best form of school-workshop. The rest of the higher standard were at work here. There were two artisan-masters aiding—one for wood and the other for iron. The wood-master told me he was seven years at this school, and that he attends another one also. Previously he was a cabinet-maker (cabinet-maker). M. Jolly said that the equipment and appliances of this workshop would cost about £100.

The boys of the second class (second year of intermediate standard) are the youngest in the school to

attend the workshop. Their general age would be from ten and a-half upwards. The higher standard is divided into three drafts, which spend a week of their time in turn at each of the three occupations, modelling, ironwork, and woodwork. Most time, however, is given to woodwork. There are two practical lessons weekly in manual work of two hours each.

October 26th.—This morning we paid another visit to the Ecole Salicet. The Director gave me a great deal of information about the general organization of Paris schools.

We saw the fourth class (second year of elementary standard), at a writing lesson. Teacher was explaining on blackboard formation of letter "r." Great attention was paid to the formation of the up and down strokes, also to the right way of holding a pen. The lesson was a demonstration of methods, not a mere practice at imitation of a head line. Copybooks with printed or engraved headlines are never used. I think, however, our National schools produce better writing with the help of Vere Foster and his coadjutors. As a rule the writing I saw in French schools was not particularly good.

The second class (second year of intermediate standard) was at a lesson in science when we entered the room. No experiments were made; I was told it was not usual to find experiments except in a school with a complementary standard or a Higher Primary School, where the municipality supplies apparatus. Every class is furnished, however, with weights and measures of capacity, which are always brought out before the class in a lesson on the metric system. The subject of the lesson given in science was the muscles and tendons of the human body. The method of teaching adopted in (1) a recapitulation of the last day's lesson, (2) expounding by the teacher of the subject matter with charts or objects where possible; (3) general questions of repetition to pupils; and, finally, every boy wrote in his copy-book from the teacher's dictation the main outlines of the lesson.

The class broke up at 11.30, and we then saw the distribution of soap and meat at the canteen, as already described. The daily hours here are from 8 to 11.30 and from 1 to 4 p.m. 8.30 is the usual time for commencing work during the winter months in most schools. I saw the attendance roll of the second class, as mentioned in joint report.

A great deal of other information obtained at this and other schools has been given already in the joint report.

At 1.30 we met M. Jolly, at the Primary Male School of the Rue Phibet. This is one of the best Primary Schools in Paris, and especially good at manual work, and we were able to see the work in full swing, as already described under "Manual Occupations." The staff of this school consists of the director, M. Berlin, and eleven assistants. There is a complementary standard of about 100 pupils under three masters. The average attendance is about 500. The distribution of the classes are—

- I. and II.—Complementary standard.
- III.—Higher standard.
- IV., V.—Intermediate standard (second year).
- VI., VII.—Intermediate standard (first year).
- VIII., IX.—Elementary standard (advanced section).
- X.—Elementary standard (lowest section).

The workshop here is one of the best in Paris, and typical of the most approved kind. There is accommodation in it both for woodwork, ironwork, and modelling. From the fifth class upwards the boys come to the workshop; the other classes do paper-folding and cardboard work. I carefully inspected the timetable of the fifth class; of the thirty hours per week two are given to drawing, both freehand and geometrical, three to manual work, one and a quarter hours to elementary science, and there are

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exercises in gymnastics three times a week. Most time (six hours) is given to French language, including reading, spelling, grammar, and composition, and four lessons weekly are given to arithmetic.

By permission of the Director I put several questions to the class in geography, history, and science, and they answered with much intelligence. They seemed better acquainted with physical than with political geography.

The Director of this School, M. Berlin, is a great enthusiast for manual training, he especially praised it for counteracting the tendency of literary instruction to discourage manual trades and to set up the merchant's desk or the Government office as the goal of a clever pupil's ambitions. He also emphatically stated that none of the other subjects had lost anything by the time given to manual work, but rather had gained by the extra intelligence acquired.

October 21st.—Today being Thursday all the Primary Schools were closed. We spent the morning very profitably at the Musée Pédagogique (Schools Museum) of the Rue Gay Lussac, in the Latin quarter. Here we saw specimens of school apparatus—charts, text-books, ball-frames, &c., &c., from all parts of the world—copy-books of pupils, specimens of manual work, drawings, &c., executed in French schools, also a display of needlework. The lady in charge of the needlework department, on learning that we were from Ireland, stated that among the best work she had seen was a book containing needlework specimens issued by the Commissioners of Irish Education about 1863, which she produced with delight for our inspection, and peered with clearly a genuine enthusiasm. We were able to study here the whole programme of French needlework. Many teachers visited the Museum during our stay there, and no doubt such a display of educational materials must be of the greatest interest and advantage to them.

Later in the day we called on M. Bayet, the Director of French Primary Education, whom we had been unable to see before. He gave us letters of introduction to various provincial educational authorities, together with much general information.

October 22nd.—This morning by appointment we had a lengthy interview with M. René Lollanc, Head Inspector of Manual and Agricultural Training. He showed us photographs of culture in flower not from many Primary Schools and Training Colleges, and gave us a great deal of information on the progress of manual work and agriculture in the country as well as on the general organization of French schools. Having asked him what he would consider as the best method of educating existing teachers in a new subject or new style of teaching, he stated that the best plan would be, in his opinion, to choose capable teachers from every district, and train them during vacation at a centre; and then send them back to their own neighbourhoods and require them to give lectures and demonstrations of the new methods to their colleagues.

I learnt in Belgium that this plan had been worked there with profitable results, (see Report on Drawing and Agriculture in Belgium).

October 23rd.—This morning we visited the Training College for Male Teachers of the Department of the Seine at Anteuil. This is a fine building, with splendid lecture and demonstration rooms, and everything in the best style. Especially good is the equipment for physical science; models of anatomical parts, various instruments for demonstrating scientific principles, &c., are all here—these things are kept in a special room, and brought to the lecture-rooms for use when wanted. There is also a workshop for manual training, under the charge of a special professor, with two assistant-masters. Pupils enter this College by competitive examination, and the course lasts three years, from sixteen to twenty is the age of students. Their hours of study are long, commencing at 6 A.M. Class begins at 8.30, from 11.30 to 1 is

free, and then lectures again from 1 to 4. Preparation later on in the evening takes place for two hours. There is a half-holiday on Thursday, when the pupils often go for walks under supervision, and visit museums and manufactories.

There is an annual examination held by the College authorities; but answering would lead to dismissal from the College. The leaving examination is held by the inspectors' authorities, and bestows on the successful candidates the *Higher Brevet*. This diploma does not, however, make any difference in the teachers' salaries; it qualifies them to become *directors* of schools, and to rise to first or second grade. On leaving the Training College they are merely *probationers* on getting a school, and must rise in the ordinary way by merit and length of service to the other classes.

We visited at classes in arithmetic, drawing, physics, and manual work. The ordinary class is of forty pupils (there are 120 here, spread over three classes, corresponding to the three years of the course). Intelligence in answering seemed to be the main point insisted on at the classes. In drawing we saw pupils drawing to scale a section of portion of school buildings. The manual training students were at wood and iron, and seemed thoroughly interested in the work, and making real progress. The general disposition of the class was similar to what we saw at the Rue Fila, but of course more advanced. Each draft of pupils spends six months at woodwork, and next six months at iron work. The artisan-master has eight ten hours a week here, for which he is paid 248 francs.

On leaving the Training College we visited the important Higher Primary School at Anteuil, known as the Jean Baptiste Say School. There are five others of the same kind for boys in Paris, and two for girls. Boarders and day boys of twelve years of age are received here. The course is of two kinds, commercial and industrial. The pupils of the latter course got a great deal of manual work, but the others very little. The programme of manual work is a continuation and extension of the Primary School programme, and in the later stages it gradually becomes more technical in character. There are free places in this school, for which the competition is very great. As a rule, the pupils are of the lower middle class, in one of these Higher Primary Schools the Collège Chaplat, the pupils are of the same class as those frequenting the large Secondary Schools or *Lycées*. Modern languages, book-keeping, drawing are subjects that are very fully taught in these schools.

October 25th.—We spent the day (from 9 o'clock to 4) at the three schools of the Rue de la Fontaine. These three schools form a scholastic group (*groupe scolaire*), consisting of male, female and infant schools. They were built in 1891, and cost the Municipality two and half millions of francs (£100,000); the purchase of the site swallowed up a large portion of this large sum. The schools are replete with every modern improvement. The three buildings form three sides of a large supplied courtyard, which is divided out among each of the schools. The out-offices are especially clean and well arranged.

The infant school consists of the central hall (*porche*) and four class-rooms, each one with desk accommodation for fifty pupils. There are four teachers, of which one is head Mistress or Directress, and each takes a draft of the pupils in a separate class-room. The school hours are from 9.15 to 4 (with recreation and confiné from 11.30 to 1.30).

A detailed account of the methods of instruction and organization in this typical school has been incorporated in the Joint Report under head of "Kindergarten."

The girls' school has eight classes (we would call them drafts) under the care of 8 Directresses and eight teachers. We saw lessons given in drawing and

writing. In the seventh class (elementary standard, second year), the specimens of drawing shown were freehand copies, such as are given in Ireland to fourth class, these did not appear well executed, and were poor enough, but it must be remembered that the children that drew them were only eight years of age. In writing slates are never used, no headline copies. All copying is from blackboard.

The boys' school has nine classes, two of the higher standard, three intermediate, and two elementary standard, besides an infant class (*classe enfantine*) for pupils not advanced enough for elementary standard, and too old (i.e. over seven) for infant school. There are nine teachers and the Director.

We saw the first (highest) class at drawing. The pupils were copying a plaster cast representing a symmetrical arrangement of curves in deep relief, hung on the wall in a strong light coming from the left-hand side, so as to bring out clearly the distinctions of light and shade. Shading from the flat is never taught. This class was under the charge of a special drawing master; the same master gave instruction to the first four classes of the school. Besides this school, he also attends the Colbert School (Higher Primary School for boys), and two other elementary schools. He showed us specimens also of home exercises in drawing, and exercises in original design.

We visited the workshop for manual training, which is typical of the most approved style, and well furnished with all tools and other necessaries. Places are provided for forty-eight pupils; twenty-four for woodwork, twelve for ironwork, and twelve for modelling.

Mr. Godfroy, one of the special inspectors of drawing for the city of Paris, met us by appointment, and accompanied us throughout the day. For his courtesy and the valuable information which he gave us I desire to express my hearty thanks.

October 26th.—Our morning visit was to the Higher Primary School for Girls in the Rue des Martyrs, known as the Edgar Quinet School. There are but two of these schools in Paris; this one was founded in 1890, the other in 1882. All the pupils here, about 400 in number, are day pupils, and belong mostly to the lower middle class (*petite bourgeoisie*). Only pupils are admitted that are twelve years of age, and have the Certificate of Primary Studies. The course of study lasts about four years. Many students at the end of the course go up for the examination for the Elementary Brevet; others pass the examination for the Certificate of Higher Primary Studies.

Practical instruction is not greatly developed in this school. The Directress told us that there was hardly time enough for it. Three and a half hours weekly are given to it. The subjects taught are—

First year.—Needlework, and domestic economy (theory), one half-hour.

Second year.—Needlework and millinery.

Third year.—As second year, with cutting-out and dress-making.

Fourth year.—As third year, with addition of cookery.

No laundry-work is taught here, and very little housewifery, beyond what is comprised in the above programme.

We saw a class of twenty-three girls (second year) at millinery, under a special extra teacher. In dress-making, lay figures of all sizes are always used. Garments made are given away to poor children belonging to Elementary Schools. To supply all needlework materials the city of Paris allows the Directress the sum of 1,500 francs (£60) annually.

No cookery classes were in progress on the date of our visit, but it was intended to begin in November. There is to be one lesson weekly of two and a-half hours on Tuesday mornings, and one half of the students of the fourth year are to attend at a time. All expenses are provided by the Municipality, which awards prizes (*sous-pensés*, &c.) at the end of the year's

course, to the best pupils. The lessons are given by a male professor. Some account of the arrangements appears in the Joint Report.

Adjoining the Higher Primary School, in the same street, is an Infant School, which we also visited. The Directress, Mme. Decroly, is an enthusiast for manual exercises (the word *kinétopédie* is never mentioned in France). Here we saw specimens of work executed by the children, especially artificial flowers in paper. A great many of the ordinary Froebelian exercises are taught in this school. The average attendance is about 170, and the school staff consists of the Directress and three assistant teachers. The general disposition of the class-rooms and organisation are similar to those of the Rue de la Fontaine. Mme. Decroly gives lectures on infant training to teachers every Thursday during the school year.

In the afternoon we went to the Girls' Elementary School of the Rue de Bézouze to see exercises in physical drill by arrangement with Lieutenant-Colonel Dene, who is Municipal Inspector of Gymnastics. The pupils of this school won the first prize in a competition in gymnastics between the female elementary schools of Paris. Colonel Dene had been kind enough to organise a regular display of physical exercises throughout all the standards for our especial benefit, and certainly the good order and precision observed in the various movements were highly creditable to all concerned. We saw the *Défilé en file*, already alluded to in Joint Report.

There are about 450 pupils in this School, in charge of the Directress and nine assistants; in all nine classes or drafts. The first class is of the complementary standard, besides the ordinary subjects this class gets lessons in English from a special teacher, and also in physics, with experiments. For practical work it is intended, we were told, to start cookery classes under a special teacher. Besides the gymnastics, we also saw some of the various classes at history subjects.

At this school we met a school delegate—that is, a member of the local School Committee, told off to act as visitor to the School. He takes a single lesson under his protection, and his chief duty appears to be to solicit subscriptions and donations for the school fund (*casse des écoles*), out of which the expenses of the cantine are paid. In Paris each arrondissement has a School Committee, chosen from the Municipal Council. This delegate is the sole official person that has the right to enter a French school without special permission.

October 27th.—We visited the Training College for Female Teachers for the Department of the Seine, Boulevard des Batignolles. We were not very fortunate in the time of our visit, as the professors and pupils of the College were about to celebrate the twenty-fifth anniversary of its foundation on the following day (Thursday). We were in consequence unable to visit any classes, or even to see the Directress but we had an interview with one of the professors (a lady). Practical instruction does not enter much into the programme, as no cookery or washing appeared to be carried on at the time of our visit. Theoretical lessons in Domestic Economy are, however, given. I was told that in the provincial training colleges practical instruction was carried out to a certain extent (Mr. Hughes-Dowling saw something of it at Grenoble). There is a fine practising school annexed to the Training College, as well as an infants' school. I visited these schools on November 15th, on my return from Brussels.

Later in the day we went to the Elementary Boys' School of the Rue Philippe de Girard, where we saw a full course of gymnastics given by arrangement with Lieutenant-Colonel Dene. All the classes were drilled for us in the court-yard of the school by the special gymnastic instructor, and certainly they performed the extension motions, and various evolutions, with remarkable precision. A very elaborate series of exercises has been arranged by Lieutenant-Colonel

Arranger: R.
V.
Mr. Wynne
Dury.

APPENDIX B.
V.
Mr. Wyse's
Diary.

Dérou, both for boys and girls, and is carried out in all the Primary Schools under his supervision and that of his sub-inspectors. All this has been started in the case of the boys, with the view to prepare them for the military service, that all will be obliged to go through under the Conscription Laws. Colonel Dérou is himself an old soldier, and told me that he fought at Sedan in 1870, and was taken prisoner by the Germans, from whom he escaped at the risk of his life. These half-hours are given weekly to gymnastics at this school, taken (of course) inside of school hours.

I met here the inspector of the *arrondissement*, M. Bertrand, and had some conversation with him. He complained of the amount of time that is now being given to manual and practical instruction—fourteen hours out of thirty, and said that in his opinion the teaching of French language and arithmetic had suffered. He pointed out that as the Municipality had special inspectors for nearly every practical subject, the attention given to these was somewhat exaggerated, whilst there was no one but the ordinary Government Inspector to look after literary subjects. He talked also of manual training in the rural parts which (he said) is practically non-existent, the laws on education being carried out in many places in a lazily elastic manner.

In the evening M. Guéhen was kind enough to take us to visit a course of free classes in drawing, held in a Primary School building in the Boulevard Mouton-Rouge. There were three different classes here engaged at freehand and shading from objects, casts and busts, mechanical drawing from models of parts of machines, and modelling in clay. In this subject a great deal of decorative sculpture, such as one sees on the façades of the principal buildings in Paris, was being done. The pupils were of all ages, from sixteen upwards—the majority were youths already apprenticed, and occupied at their trade during the day-time. The admission is by competition among the candidates. There are four of these free courses in drawing in Paris.

October 25th.—In the course of the day we visited the Scholastic Museum of the City of Paris, in the Rue Montmartre. This museum contains everything of interest connected with Primary Schools, but is confined to Paris only, and in this respect differs from the Museum in the Rue Gay-Lussac which we saw last week. The nucleus of this Museum was an exhibit of scholastic objects of the Paris Schools at the Exhibition of 1889. After the Exhibition, the Municipality purchased a *local*, and the objects were transferred to it, and further added to. The arrangement of the various exhibits is most systematic, and affords the greatest facility to the visitor for studying anything connected with any special branch of education.

October 26th.—Mr. Hughes-Dorling having left Paris for Grenoble, I visited alone the St. Nicholas School of the De la Salle Brothers in the Rue de Valenciennes. This large establishment comprises a Primary School of about 800 pupils and a Technical school where about a dozen different trades are taught. This school reserves no financial aid whatever from the Government (like all schools kept by religious orders), and depends for support on fees from the pupils, and voluntary contributions. The Primary School has nineteen classes, the subjects taught are almost the same as for State Schools (there is no manual work). Drawing is taught in all classes. Pupils are prepared for various examinations, including the Certificate of Primary Studies, and the Elementary Brevet.

In the Technical School the course of instruction lasts for three years in some trades, and for four in others—it is both practical and theoretical. The practical instruction is given by artisan-masters under the supervision of the Brothers. Spacious workshops have been fitted up for all sorts of iron and metal work, lithography, book-binding, engraving,

&c.; there is a steam-painting press, by which a weekly journal of the school is published regularly, besides a great many books of various kinds. The pupils go to the Technical School at thirteen or fourteen, after which they cease to attend the Primary School.

In the afternoon, by appointment with Mme. Schéfer, lady-inspector of housewifery subjects I visited the Elementary Girls' School of the Rue des Valenciennes. This is one of the best girls' schools in Paris, and practical subjects for girls are most developed here. There are fourteen classes, including two of the complementary standard, the pupils of these two classes get instruction in cookery once a week in four drafts, on the plan described in the Joint Report under the head of Cookery, &c. Having spent some time in the cookery rooms I then saw several classes at needlework, and inspected several specimens of finished work. The needlework of this school is very excellent, and especial attention is given to the crosses in design, already alluded to in the Joint Report. In cutting out, the garments made are mostly in small patterns: full-sized models are not much made, as they take too long and are tiresome for little children. The time devoted to sewing (two to three hours weekly) is not sufficient for making or finishing many garments. The practice is carried on here of one pupil reading aloud some interesting or instructive book whilst the others are knitting.

In the evening I left Paris for Caen (Calvados).

October 30th, Caen.—Caen, an interesting and prosperous town, the ancient capital of Lower Normandy, is pleasantly situated on the banks of the Orne, in the midst of a fertile and well-tilled country, thickly studded with orchards and market-gardens, alternating with pasturage and farm crops. Educationally the town owes its importance to the possession of a University which makes it the centre of one of the sixteen *académies* into which France is divided. The Academy of Caen includes the six départements of Calvados, Orne, Manche, Sarthe, Eure, and Seine Inférieure. M. Edgar Zévaot, the Rector, resides at Caen, and in the chief town of each of the six départements there is an Academy Inspector who controls the education of the département, both higher, secondary, and primary. The Département of Calvados does not possess a higher Primary school, but there are four schools (all for boys), with complementary standard at Caen, Vire, Pont-l'Évêque, and Tréville. These are the only schools in the département in which manual work is taught. Caen also possesses two Training Colleges, one for young men, and the other for young women.

After an interview with M. Zévaot, the Rector, I went to see the male school of the Rue Guilbert. This school is styled the "École Primaire Supérieure" or "Professionnelle," but in reality it is merely a Primary School with a complementary standard and a workshop for wood and ironwork. There are seven classes, two of which belong to the complementary standard, and the other five to the ordinary standards. The highest of these five prepares pupils for the Certificate of Primary Studies.

The complementary standard (which is a kind of continuation class under special teachers), takes pupils after passing the Certificate of Primary Studies, and its course comprises both a theoretical and a practical side. On the theoretical side the usual literary subjects, with the addition of English, book-keeping, algebra, and geometry are taught. The practical side includes—(1) Joining; (2) Iron-working; (3) Iron-fitting; (4) Forge-work; (5) Geometrical drawing; (6) Model drawing; (7) Clay modelling; and (8) Clay-waremaking.

The school day is from eight to eleven, and one to four. Thursday is wholly devoted to the practical side. The net school time available per week is 35 hours 20 minutes; of this time 25 hours 40 minutes is devoted to the theoretical side, and 9 hours 40

minutes to the practical side (there is one hour extra in summer for manual work.)

The 9 hours 40 minutes for practical work are thus divided:—

Manual work (2 lessons)	4h. 50m.
Model drawing (2 lessons)	2h. 0m.
Geometrical drawing (1 lesson)	1h. 30m.
Modelling and moulding (1 lesson)	1h. 30m.
Total	9h. 40m.

There are special masters for drawing and modelling, and two artisan-masters for manual work at 580 francs (£37 4s.) per annum each. There is a fine workshop, built at the expense of the Municipality, in two divisions, one containing twenty benches (for 60 pupils), for woodwork, the other with twenty-six, for ironwork. Modelling is carried on in a classroom. The general aim of the manual work here is technical rather than educational. For the first six months pupils are allowed to try their hands at both wood and ironwork; after that time they must make a choice between one or the other. Copy-books with plans are always insisted on, but I saw no work in semi-cylindrical rod-iron, nor with sheet-iron (as in Paris), only with the iron-plate. Pupils in the second year make useful articles. The Director told me that he follows the Paris system, but he evidently is unaware of the great changes in an educational direction that manual work at Paris has undergone since the death of M. Salicrú in 1889. It is only the pupils of the complementary standard that use the workshop. The Director said that 25 per cent. of his pupils stay at school to join the complementary standard; boys also come to him from neighbouring schools. The pupils of the highest class in the elementary part of the school have half-an-hour weekly at paper folding. The Director told me that there were no manual occupations taught in other schools; the teachers (he said) tried it at first when the law of 1887 was promulgated, but have long since given it up.

October 31st, Caen.—This (Sunday) afternoon I went to see the Training College for Maîtres, and the Director was kind enough to show me round the building and give me some information. The College is a fine new building standing in spacious grounds on the outskirts of the town. It was built in 1885, half the cost being paid by the State, and the other half by the Department. There are about seventy pupils in residence at the three years' course.

The workshop is in a separate building away from the main house, and is well fitted up with accommodation for at least fifty pupils. The first and second year pupils spend three hours weekly here; the third year pupils two hours. The first four months are spent at woodwork, the next four at ironwork, and the rest of the time (ten weeks) at modelling. There are no artisan-masters; all instruction is given by the class-master, who learned his business at the Higher Training College of St. Cloud. Lathework is taught, and ironwork begins with thick iron-plate work. A little cardboard-work and paper-work are also taught. Four hours a week are given to drawing. Two hours a week at suitable seasons are spent in the large garden at ordinary horticultural operations, not at experiments. The Director, M. Heron, is an ex-Inspector.

I had an interview with M. Tréhou, Primary Inspector, who gave me a great deal of information, and confirmed the opinions I was beginning to form as to the non-existence of Manual occupations in ordinary Elementary schools. A little paper-weaving to amuse the infants was about its extent in the districts of which M. Tréhou has had experience. He spoke more favourably of agricultural teaching, and said that many schools in his last district (in the Seine Inférieure) had experimental plots. M. Tréhou is a great advocate for evening schools and evening lectures for the adult population, with a magic lantern.

November 1st, Caen.—To-day being All Saints' Day, and a general holiday, all schools were closed. Nevertheless I went in the morning to visit some country schools in the neighbourhood, and M. Tréhou was good enough to accompany me. As he has only just come to this district, he had never previously visited the schools that we saw.

The first school we met (about two miles from Caen) on the high road to Avranches, was the little mixed school of Venoix. As the arrangement of the schoolhouse is typical of French country schools, it may be well to describe it. In front of the school there is a gravelled courtyard; the school proper is in the centre of the building, and is flanked on one side by the teacher's residence, and on the other by the office of the Mayor of the Commune. In many cases the teacher is secretary to the Mayor. Behind or adjoining the school there is a well-tended vegetable and fruit garden, belonging to the teacher, of a size varying from a quarter to half an acre. House and garden are rent free to teacher. The buildings are kept in repair out of the funds of the Commune, raised by local rates. The same rates have to keep the village church and residence of the parish priest in repair. On inquiry I found that roughly the rate would amount to about a franc (10d.) for each inhabitant (women and children included). Of course it is not levied by poll-tax, but on the valuation of the holdings.

This little school is for boys and girls, under a female teacher. There were thirty pupils on rolls, and the attendance (see statistics given in joint report) is good. The schoolroom is well-lighted, with desks of the dual pattern (without any side space for draft circles), and the walls bare of maps and tablets. There were, however, painted on the wall three maps of France, Europe, and Calvados respectively. At first I took these to be relief maps standing out from the wall, and was a little surprised to find they were merely imitations, painted so as to represent relief maps on a perfectly flat surface. These were made by the husband of the teacher, who is Director of a Primary School in Caen. I may say that in nearly every country school I found similar maps, drawn by the teachers, on the walls, and was highly pleased at this evidence of intelligent interest in their work on the part of the teachers. Having inspected schools in nineteen of the thirty-two counties of Ireland, I have never met with anything of the kind at home. The pupils of this school are in three sections—preparatory, elementary, and intermediate standards; there is no higher standard. The timetable followed is a verbatim copy of the official timetable of the Department. Eight to eleven, one to four are the school hours. The last half-hour of the day is devoted to elementary science on three days in the week, and to needlework on the other two days. On the needlework days, however, the girls stay until 4.30. There are no manual occupations for boys taught. Two half-hours weekly are given to drawing. I saw here a printed lesson-table, arranged for each week of the year, named by the Department, which the teachers are obliged to follow; also the *Journal de Classe*, or daily log-book of the work of the school, to be kept and shown to the Inspector on his visits.

A couple of miles further on we came to another village, Breilleville-sur-Ordon, and visited the boys' school there. Its general form was similar to that of Venoix. There were a great many printed maps here, and the teacher showed me with much pride a relief map, which he had made in plaster and clay, to explain to the pupils the meanings of the various geographical terms—strait, gulf, river, watershed, &c. He also showed me his school museum, which consisted of a collection of various kinds of stones, fossils, industrial products in their various stages, chemical matters in bottles, grasses and plants, ranged on shelves about the room. In agriculture he used these objects, as well as his garden where he showed the

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V.
No. Wyse's
Survey.

pupils methods of growing vegetables and grafting fruit trees. He had not yet made any agricultural experiments, and was looking for guidance in this matter to the Teachers' Conference, to be held at Caen in a few days' time. He taught no manual work. On my asking him how he justified this breach of the Decree of 1837, he said simply that no Inspector ever troubled him about it, and neither he nor his colleagues saw much use in it.

He used the official time-table that I already saw at Vieux. The attendance of pupils was good, and he had no complaints to make of want of punctuality of morning attendance. The bigger boys stayed away a good deal at the haymaking, but otherwise came to school regularly. There were thirty-two pupils on the rolls.

We saw another boys' school at a village called Fontaine-sur-Orne, about seven or eight miles from Caen. Twenty-six pupils on the rolls here, and the same official time-table is used. The teacher of this school has a taste for manual work, and was able to show me some examples of wood carving that had been done by his pupils, when the decree about manual work was first issued. He used a common knife, and the objects made were little models of rake, post-axe, chair, and similar things. Drawing and geometry had little to do with the production of these articles. He did not estimate this instrument at present, but still gave occasional lessons in paper-work. He was kind enough to give me the copy-book of *François Manual* of one of his best pupils, executed during the school year ending August, 1897. The copy-book contains nine exercises in paper-folding, the pieces being pasted into the book with a drawing and description beside each one. The boy is in the intermediate standard at the top of the school, eleven years of age, and intends to enter for the Certificate of Primary Studies in July, 1898. The nine exercises are the first nine of the series set down in M. Jolly's text book for children of seven in the Elementary Standard. The work would represent nine half hours of the school year, and it cannot be said that the subject is taught systematically apart of the ordinary school-course, as the work done represents half an hour a month. I also saw agricultural copy-books, which contained questions and answers on practical horticulture neatly written out with pen-and-ink sketches; also a botanical copy-book, where the different parts of a flower were pasted into a book, with the names written beside each part. The teacher utilizes his garden for practical lessons in horticulture and arboriculture, but he told me that the parents had objected to his making the pupils perform agricultural operations. For the smaller children of the school little kindergarten exercises are occasionally given, more as an amusement for them than a serious occupation.

In the afternoon I left Caen for Rouen.

November 2nd, Rouen.—The important manufacturing town of Rouen is the capital of the Department of the Seine Inférieure, which is one of those comprised in the Academy of Caen. It has a population of about 110,000, and owes its industrial and commercial importance chiefly to its numerous cotton spinning factories and extensive carrying trade. This Department possesses several other considerable towns, including Le Havre, Dieppe, Fécamp, and Elbeuf. The primary education of the Department is controlled by the Academy Inspector, M. Made-Curline, and eight district inspectors. I had an interview with the Academy Inspector, and with a District Inspector, M. Lannay, who acts as his secretary in matters of primary education; also with M. Prouzet, one of the two district inspectors stationed at Rouen. These gentlemen, and especially the last-named, were kind enough to give me a great deal of information with regard to manual instruction in this Department. They were unanimous in stating that manual occupations are non-existent in the primary schools, except perhaps in a few isolated cases.

The number of schools in the Department in which woodwork is taught is twelve, four of these are Higher Primary Schools (i.e. Continuation Schools); the others are schools with Complementary Standard. Ironwork is taught in five of these twelve schools, clay-modelling in three of them. There are no other elementary schools with woodwork or ironwork. The number of pupils that received instruction in woodwork in 1896 was 475, in ironwork 327, and in clay-modelling 77. The total number of boys attending the primary schools of the Department in 1896 was 61,135.

To-day being the Feast of All Souls (*Fête des Morts*) all the schools were closed, so that I made no visits.

November 3rd, Rouen.—The only school in Rouen with manual work is the Higher Primary School for boys in the Rue St. Lo, and I accordingly went to see it this morning. This school, which was founded in 1849, was originally a kind of preparatory Technical School; its aim was to prepare pupils for entrance to the Schools of Arts and Trades (*Écoles d'Arts et Métiers*); in 1882 it was organized as a Higher Primary School with three sections, general, commercial, and industrial, and preparing pupils for all kinds of commercial and industrial professions. The manual work carried on consists of all kinds of carpentry and ironwork, including the elements of joinery, lathe work in wood and iron, iron fitting, and forge work; and the use of the more ordinary machines employed in drilling, mortising, and other mechanical operations are also taught. The workshops are very large, accommodating about 100 pupils at ironwork and 80 at woodwork, the machinery for ironwork is put in motion by a steam engine of 8-horse power, provided with a factory chimney, "which," in the language of the prospectus, "reveals to the visitor at the first glance the technical character of the establishment."

There are about 220 pupils at this school, between the ages of twelve and seventeen years; about 80 of these are boarders. The school is free to the day-boys, but parents are obliged to pay for books and other school stock necessary for pupils. The salaries of the teachers are paid by the State, all the other charges for the support of the school are paid by the Municipality of Rouen.

The Director took me to see several classes at work in the industrial section. Mechanical drawing is especially well taught here. I saw drawings of sections of buildings and of parts of machines that were wonderfully well done. The manual work is almost technical in character, indeed frankly so in the higher stages. The Director described it as being intermediate between hand and eye training and technical work; of course the pupils have now reached an age when their technical education ought to commence. Almost all the pupils however spend some time in the workshops, irrespective of their intentions to become, in after life, workers in wood and iron, and the Director stated that all took a keen interest in the work.

I next visited the Male Training College of Rouen. There are about 80 pupils in training here. The manual work is carried on in an old building alongside the college. This building was originally the old chapel belonging to the Abbé de la Salle; it was here that he lived and taught, and his heart is interred a few paces away in the Church of St. Sever. The building is now fitted with benches and vices for wood and ironwork. The pupils spend three hours a week at manual work; the first six months after entrance are devoted to paper-work and cardboard work, and it is only at Rouen of the first year that pupils go to the workshop. The Director told me that manual work was most popular with the students in training.

With regard to agriculture there are four hours weekly here instead of the usual two. This is

due to the fact that there are four extern professors teaching the four branches of (1) culture of farm and garden crops, (2) arboriculture, (3) live stock, (4) agricultural chemistry. The garden is situated in the case of the first two subjects. Each pupil has a fruit-tree of his own, which he has grafted himself, and which he may take away at the end of the course. With regard to experiments with manures, the Director said that so far he had not been very successful. Some were tried during the past season on the experimental plot, but (strange to say) the results that ought to have followed did not always turn out according to expectation, the conditions of growth were not perhaps sufficiently rigorous, and abnormal climatic influences may have affected the trials. On the whole, so far, the experimental method has not been a success here.

The Director was kind enough to take me to see a *Station Agronomique*. This is not a school of instruction, but a chemical laboratory for analysing manures and making experiments connected with the agriculture of the district. There is also an experimental plot attached where new varieties of seed are tried, and many experiments in culture with a special view to the needs of the district are made. Farmers can send in here specimens of artificial manure that they have bought, which are analysed gratis. This is an excellent plan of checking the sale of spurious bag manures in country districts.

November 4th, Lille.—By the advice of the authorities I visited the Higher Primary School in the Boulevard Louis XIV. Every Thursday the pupils of the Elementary Schools come to the workshops here for manual work. Originally ten or twelve out of the twenty Elementary Schools at Lille were furnished with workshops, but the Municipality found the support of these workshops (especially payment of artisan masters) too costly, and decided to bring the pupils on Thursdays to the Higher Primary School. These pupils come in four relays, for two hours at a time, under charge of a class-master, who superintends, but does not teach. There are about fifty pupils in each relay. The classes are from 8 to 10, 10 to 12, 2 to 4, and 4 to 6. The pupils are usually of the first class, i.e., class preparing for certificate of Primary Studies, aged about ten or eleven. They spend three months at wood, then three at iron, but do no modelling. The artisan master gives all the instruction; he makes a *travail* on the wood (he copies these *travaux* from a set prepared by M. Cedron, Organiser of Manual Training for the Municipality), and the pupils cut the wood accordingly. A great part of the educational training is therefore lost; no copy-books are used. The class-master superintending told me in conversation that there were no manual occupations taught to any class at his school, nor in any other Primary School at Lille, as far as he knew. There are four artisan masters attached to the Higher Primary School, and they are continuously employed, as the pupils of the Higher School, especially the Industrial section, do a great deal of manual work. The workshops here are numerous, quite the largest I have seen. There is room for at least 150 pupils at each subject, they are equipped with numerous lathes and forges, and there is a gas engine of 14 horse-power to keep these working.

In ironwork the elementary pupils have begun with sheet-iron, which they file down to a form already traced by the artisan master, so that their knowledge of drawing is not utilised. There is no embossed work, nor work in reduction such as I saw at Paris. The work appeared to me mechanical and laborious for the children, nor was the discipline quite all it should have been.

The Higher Primary School is larger than that I saw at Rouen, but its general organisation is similar. All the expenses of this school are at the charge of the Municipality; this is also the case in the Higher Primary Schools of Paris, Lyons, Marseilles, and Bordeaux; in the others the salaries of teachers are paid

by the State. The pupils are sent in for many examinations, especially those for entrance to the schools of Arts and Trades (of which a magnificent new one is shortly to be opened at Lille), also for the certificate of Higher Primary Studies, which, it will be noted, includes a practical test in woodwork.

Lille is the capital of the Department of the Nord, and also possesses a university. The Training Colleges of this Department are at Douai, and I did not see them. At Arras there is a "National School" similar to that of Valen (Isere) visited by Mr. Hughes Dawling.

November 5th, Lille.—One of the District Inspectors at Lille, M. Cuen, took me to see a country school where agriculture is successfully taught. This school was at a village called Fretin, about six miles south of Lille, the country around is a well-tilled plain, covered with a rich clay soil which produces a great quantity of root crops, especially beet and potatoes. The manufacture of sugar and alcohol from these vegetables is a great industry in this part of France.

The school consists of three class-rooms, with about 120 boys in attendance, under the charge of the principal teacher, M. Santé, and two assistants. The attendance of pupils is very regular, some figures that I noted are given in the joint report. M. Santé had charge of the Intermediate standard, together with six or seven older boys that had taken their certificate of primary studies, about forty in all. The other two divisions of the school are the elementary and preparatory standards respectively.

The Principal gives his class three lessons in agriculture weekly of an hour each, and one hour for elementary science. He has not yet adopted the new programme in agriculture, but for some time past he has been in the habit of doing simple experiments for his pupils. He has shown them all about germination by growing baricot beans in flower pots and under glass jars; e.g., in order to show that in the process of growth the leaves of a plant consume the oxygen of the air and emit carbonic acid, he covered a plant with a glass jar, and after keeping it a day or two in a dark place proved the presence of carbonic acid and absence of oxygen, by the usual tests of lime-water and a lighted match. A very similar arrangement was used by him to demonstrate effect of sunlight on plant growth. For the analysis of earth, he demonstrated the presence of calcareous matter by adding a little acid to a mixture of earth and water, and noting the effervescence that followed. He told me that he had made experiments with manures, but not in November, so that I could see no specimens of them. He occasionally in the spring and summer takes his pupils out to his garden behind the school and shows them usual gardening processes, grafting, &c. Once a month there is a school walk; a distillery or a sugar factory is visited, or sowing or harvesting operations are witnessed in the fields, or pupils are taken to a farm to see a sewing-machine, or other agricultural implements. In these cases the teacher usually gives the pupils an outline of what they are likely to see before they start for the walk; he requires them to take notes, and at the next lesson a full account is copied by them into their agricultural copy-books, with pen and ink drawings. These copy-books are a feature of his instruction. At the end of every lesson the pupils are obliged to write the substance of the lesson in them. In this school I saw a great number of agricultural objects in the school museum, specimens of soils, manures, seeds, in little bottles, various grasses, &c.; also, on the walls, tablets with drawings of agricultural implements, farm plants, insect pests, &c., which had been made by the pupils. In all the teaching the blackboard is constantly used. As usual, there were maps drawn by the teachers on the walls, especially a fine one of the department, showing the situation of the school. There is also a school library, in which books suitable for boys are lent to

Arrived 2
V.
Mr. Wijn's
Bury.

papers for a subscription of 50c. (5d.) a month: the books are chosen from an immense official list.

No manual work is taught; the teacher believes that manual work in rural schools should be in connection with agriculture.

At the request of the District Inspector, M. Sautré has drawn up a time-table of agriculture under the new programme for the schools of the district. This time-table is to be discussed at the conference to be held shortly.

On our way back from Frézin, we visited a male school at Lesquin. Two teachers here, and about eighty pupils. I saw here a great many maps painted on the wall by the assistant teacher, including Commons, Department, France, World, and Europe; in the last-named Ireland was altogether omitted, greatly to my amusement and the teacher's confusion. This teacher is very good at horticulture, and his garden behind the school-house is extremely well-kept. Grafting and other gardening operations are shown to the pupils here. He has also invented an ingenious system of agricultural house lessons for interesting parents in his teaching. For the home lesson, he makes his boys copy out a number of questions relative to their own holdings, such as, size of holding, kind of soil, part under various crops, manures applied, times of sowing, and various other particulars. To answer these questions at home, the boy of course asks help from his father; the answers are read by the teacher, and suggestions or criticisms written in the copy-book. The father is naturally interested in seeing these, and thus receives a lesson in agriculture, without being able to resent it. I am told that this plan has had a substantial effect on the gardening and farming of the neighbourhood.

November 6th, Lille.—Visited with M. Cuir a male school at a village called Sainsingh, about ten miles south-west of Lille. The principal teacher, M. Avromet, is an adept at handicrafts; he has himself made for use in his school a great number of models in wood, zinc, and iron, such as are suitable for use in physical experiments; also models of ploughs, harrows, and other agricultural implements. He has set up a bench for woodwork in a corner of the school-room, and here a few of the pupils assist him on Thursdays at carpentering; they lately made a fine book-press for holding school stock, besides various brackets and other articles. He had taught a little paper work too, he told me, and he showed me specimens of paper-weaving pasted in a copy-book. Manual work, however, forms no part of his usual programme, and is not taught with any definite educational aim.

The usual home-made wall maps were very conspicuous here; with the help of the pupils he was now engaged at an industrial map of France, to show the seats of the various manufactures, he had tacked on to the map little objects, e.g., about 150c and Valenciennes, he had attached little bits of silk and wool; a number of little bottles (brought him by pupils who had got them as playthings) sufficiently indicated the industries of Bordeaux. He relied on the pupils to find the necessary objects, and in this way they naturally become greatly interested in the map. He had other maps showing river basins, chief railways, and mountains and plains.

At the request of M. Cuir he got some of his pupils to sing a song for me; they did this from the notes, which is evidently regarded as quite a *doux de force* in France.

In agriculture the garden is utilized much as in the other schools, but not many experiments in plant culture have been tried yet; the teacher believes them practicable, and intends to try them. With regard to school walks, he said that he found the parents not so care for them. M. Avromet has been in the habit of making simple experiments in teaching the elements of science.

Some figures that I obtained from the school

registers with regard to the average attendance have been given in the Joint Report.

At one o'clock I accompanied M. Cuir to the male school of La Bassée, a fairly large manufacturing town about fifteen miles from Lille. The object of M. Cuir's visit was to hold a practical test for the "Certificat d'Aptitude Pédagogique" on one of the assistant teachers. To obtain this certificate, without which a teacher cannot rise from the probationary stage, a written essay on some educational subject is executed by the teacher at an appointed centre; if the candidate gains 50 per cent. of the maximum marks assigned, the practical test is then held in his own school; the judges at this test are the district inspector and two principal teachers, whom the inspector chooses in his district. The test lasts three hours, and the candidate is obliged, in the presence of the judges, to teach his school, or division (if he is an assistant), during this time, according to the school time-table. At the conclusion of the test he is examined orally by the judges, and marks are assigned, 50 per cent. of the maximum being necessary to pass. In case of division among the judges, the vote of the majority decides the question. The teacher minute notes of the lesson he is about to give (due notice of the time of examination having been given to him).

I was permitted to listen during a portion of the practical test. The teacher in question was in charge of the preparatory standard of the school, containing about fifty boys, aged from six to eight. I heard lessons in history, writing, arithmetic, and reading. The most striking point about the mode of instruction was the continual use of the blackboard in every lesson; all the writing copies were written on the blackboard, and copied from it by the pupils; also the children read from the blackboard, on which the teacher had printed sentences with chalk. In the lesson in arithmetic, the teacher showed the meaning of measures of capacity by means of actual measures. He filled a litre with water from a bucket by means of a *décilitre*, making the pupils count aloud each measure added, until, at the tenth, the litre was quite filled. In addition to this test, the teacher was also obliged to show the written work of his pupils (not very extensive in the case of such small children), and also the *cahiers mensuels*, or monthly copy-books of each child.

There are over 200 pupils in this school, under four teachers. A new (fifth) class-room has recently been added to the building, but the appointment of another teacher has not yet been sanctioned by the Departmental Council for financial reasons. No manual training is taught in this school, and very little agriculture (the pupils scarcely belong to a rural district).

I also visited for a few minutes the girls' school here, and the infant school. In the latter there were over 200 children, in three divisions. Manual exercises, chiefly paper-folding and weaving, are done two half hours weekly. There are plenty of object and pictorial lessons, and a little drawing on checkered paper. The rooms were very neatly kept, and the children looked clean and happy. In the girls' school I was shown some specimens of needle-work and darning, but the proficiency in these subjects seemed very backward; lessons in sewing, however, are given only twice a week. There is no sewing on cotton until the intermediate standard has been reached; the lower standards begin by knitting.

In general, it may be said that manual and practical instruction is hardly more developed in a town such as La Bassée than it is in any town of 6,000 inhabitants in Ireland.

Nov 8th-14th.—Belgium.—These days were spent by me in visiting schools, and in interviewing several educational authorities in Brussels. As a very full account of what I saw, and the information collected, appears in the Report on Belgium, I have very little to add here, beyond indicating shortly the nature of the schools visited.

Nov. 9th.—Visited, with M. de Vos, Head Inspector, 17th Elementary Girls' School, Rue des Six-Jetons. The school is in a finely-equipped building, and is attended by about 300 children, arranged in 19 classes. Each class is held in a separate room, capable of holding about 45 or 50 pupils. Dual desks are used, and there is a great deal of blackboard space on the walls. I heard lessons given in domestic economy (theory), geography, and drawing. The work was admirably done, and what especially pleased me was the distinct manner in which the pupils answered questions, each child being taught to speak in a firm tone of voice, and with perfect grammatical accuracy. Shaped answering was sterily repressed.

At 1.30 I paid a long visit to the Kindergarten school of the Rue du Canon. It is unnecessary to add anything to the remarks already made under Kindergarten in the Report.

Nov. 10th.—To-day I paid another visit to the 17th Girls' School, and saw some admirable lessons in needlework, besides receiving a great deal of information as to the general organisation of Belgian schools.

Nov. 11th.—Visited Male Training College, Roubaix-Hainaut, and saw classes at manual work; also had interview with the Director, M. A. Sluys, one of the chief promoters of manual training in Belgium. This Training College is supported by the Municipality of Brussels, with certain subsidies from the State. In the afternoon I went to see the Female Training College, but found it closed, as to-day (Thursday) is a half-holiday.

Nov. 12th.—Saw cookery and ironing classes at the Technical and Housewifery School of the Rue

Terre-Neuve. Here I saw the pupils from elementary schools at work in housewifery. In the afternoon had an interview with M. Remy, of the Education Office, and M. Ronbaut, Inspector-General of Technical Schools.

Nov. 13th.—Visited Primary male school at Uccle, near Brussels, with M. de Vos. We also saw the female and infantschools—they were noted for first excellence, however. In the afternoon I visited the Female Training College at Brussels, and assisted at a cookery class. I also had interviews with M. Van Kalken, promoter of manual training in the suburb of St. Gilles, and Dr. Janssens, who is charged with the control of medical supervision in primary schools.

In conclusion, I would desire to express my hearty acknowledgments to the various inspectors, teachers, and educational officials named in this diary, who in every case gave me the greatest facilities for pursuing my inquiries, as well as to the British representatives in Belgium and France. My thanks are more particularly due, in France, to M. René Lefebvre, Inspector-General of Manual Training; M. C. Bourget, Education Department, Hotel de Ville, Paris; M. Guehin, Inspector of Drawing in Paris; M. Schifer, Inspector of Housewifery, Lieutenant-Colonel Déras, Inspector of Gymnasiums, Paris; MM. Treshue, at Caen, Protos, at Rouen, and Guir, at Lille, District Inspectors; in Belgium, to Mr. Walby, Secretary of the British Legation; M. C. Remy, of the Education Department, Brussels; and to M. de Vos, Head Inspector of the Brussels district.

A. N. BONAPARTE-WYER,

Inspector of National Schools.

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APPENDIX C.

APPENDIX C.

SUGGESTIONS by INSPECTORS of IRISH NATIONAL SCHOOLS as to MODIFICATION of the PRESENT PROGRAMME of INSTRUCTION in NATIONAL SCHOOLS

The following Circular was sent to each Inspector under the Board of National Education :—

COMMISSION on MANUAL AND PRACTICAL INSTRUCTION

Dublin, February 19, 1897.

SIR,—
I am directed by the Commissioners to say that they will feel much obliged if you will kindly inform them whether, in your opinion, any portion of the National Board's present programme of compulsory subjects could without serious disadvantage be modified, either—

- (a) By making any subject optional, or
- (b) By making it optional in some class or classes in which it is now compulsory, or
- (c) By providing that a shorter time in each week should be given to it than is now given.

I am to add that the Commissioners will be thankful if you will assist them in this matter.

I am, Sir, your obedient servant,

J. D. DALY,
Secretary to the Commission.

REPLIES.*

HEAD INSPECTORS.

ALEXANDER, T. J., LL.D.

In my opinion, some of the obligatory subjects—reading, writing, arithmetic, spelling, grammar, geography, agriculture (in rural schools) and needlework—included in the present school programme could, without serious disadvantage, be made optional in any class except third.

I hold the view, however, that the requirements of the school programme in some of the subjects could be

reduced, and that more suitable text-books than some of those in use should be adopted. It is only by effecting reforms in these directions that a saving of time can be accomplished.

Speaking from a wide experience I have to say that, so long as the school programme remains as at present, the time devoted to the compulsory subjects—usually four hours—could not safely be lessened.

EARDLEY, F.

I consider that both grammar and geography, which are at present compulsory, might be made optional without serious disadvantage. As the object of grammar is to teach how to speak and write the language correctly, this object like spelling is attained not by rule but by practice, and in schools where the

subject may be recognized as optional the teacher should be still bound to correct errors both in speech and writing.

As to geography, it could readily fall into the sub-head of explanation by directing the pupils' attention on the map to every place mentioned in the reading lesson.

MORAN, J., LL.D.

Infants, first and second classes could be left as at present; but any sons of three addends in addition of money might be introduced into second class programme for boys. Thus and drawing could be taught to the boys of second class during the time set apart for needlework for girls (under Rule 9). A large number of boys leave school after passing in second class; and it is extremely desirable that they should have proceeded thus far in the important science of arithmetic.

The programme for third class I would leave as at present, with the extinction of grammar. Those

pupils who leave school after passing in third class leave without any useful knowledge of grammar. They have merely learned the parts of speech and their definitions. In the arithmetic for boys in that class I would include subtraction of money and multiplication of money by a single digit. During the time set apart for the needlework of girls (one hour), the boys could learn drawing and the additional arithmetic referred to.

Fourth class I would leave as at present; but I would make grammar optional. This should consist of etymological parsing from the reading books. The

* The replies of the Head Inspectors are printed in full; those of the District Inspectors are slightly abridged.

parts of speech and the etymology should be taught at the same time. During the time set apart for girls' needlework, the boys could be taught drawing andloyd.

I would have but one fifth class; and with this view the present fifth book could be made smaller by excluding the more difficult and unimportant lessons. In this class I would make compulsory the systematic parsing of easy sentences. During the time for needlework, the boys could be taught drawing and handicraft on alternate days. The book-keeping of this class might be the same first sets as contained in the Board's treatise; and the agriculture should embrace the course previously learned in fourth class together with the courses set down at present for 5th and 6th classes. Drawing should be compulsory in all town schools, and this extended course of agriculture in all rural schools.

The geography for fifth class might be that set down at present for fifth class, first stage, viz., the maps of Europe and Ireland.

Third and fourth classes should be examined both in writing and in spelling from a dictation exercise. This would be by far a better test than examining the writing from lead-lines alone in these classes. I find the pupils can write the lead-lines fairly, but the dictation exercise is sometimes almost illegible. The pupils should of course be taught to write by means of lead-line copies; but if the test at examination were dictation, this important exercise would not be neglected as it is at present. As the pass is awarded on the lead-line copy, the teacher does not sufficiently attend to the writing in the dictation exercise. Spelling and writing are of primary importance.

The exercises in arithmetic of this fifth class should be intermediate in point of difficulty between those set for 5th and 6th classes at present. Lopping off one class would save a large amount of time and labour in a school.

Sixth Class.—Three years (owing to cutting off one fifth class). Reading, explanation and subject matter as at present. First year, first half of sixth book as at present; second year, second half, and third year, the entire book for a *review*, requiring a more accurate and extended knowledge of explanation and subject matter.

Writing—as at present—a lesson on a given subject.

Dictation, as at present.

Arithmetic, as at present.

Grammar, as at present.

Geography, the map of the world, and a fair knowledge of the geography and map of Ireland for first year. The same with the maps of Great Britain and of Europe, for the second and third years. In third year, the outlines of mathematical geography in addition to the course set down for second year.

Book-keeping, should include *five* sets in first year, six sets in second year, and a comprehensive and accurate knowledge of the entire course in third year.

Needlework for sixth class girls. During the time set apart for this, the girls should in first year sew and knit on one day, and cut out and make simple articles of underclothing on the next, and so on alternately. In second and third years they should be taught in addition to the above any one of the subjects (in class A and B) at present set down in the industrial programme for sixth class girls. In third year a new subject should be taken. If this course were adopted, the alternative scheme could be abandoned altogether. In the vast majority of schools it is not taught, and to insist on it would have the immediate effect of sending 50 per cent of the sixth class girls out of the schools.

During the time set apart for needlework, which in sixth class might be extended to an hour and a half, the boys could be engaged each day for half an hour at agriculture, and one hour on alternate days at drawing and handicraft.

All extra branches should be taught outside school hours; and I would limit the number of these in any school to one in addition to algebra and geometry (including mensuration). Undue straining after extra branches is the bane of primary education in this country. They are widely taught with a view to earn money for the teacher, without any regard whatever to the destination of the pupils in after life.

Remarks on the foregoing proposals:—

1. How may drawing be taught more extensively than at present?—By not insisting on a certificate for the next three years, and paying results fees for the subject if 50 per cent of the pupils pass. Any ordinary teacher can direct the pupils in making clear well-defined lines, and in imitating the copy in all drawing from the first. He can, as a rule, as well direct them in drawing of this kind as in the imitation of the lead-line copies they write each day.

Model drawing should be taught to sixth class boys, and with this object in view, I would not qualify any candidate for a certificate who fails in object drawing. It may be said I have made no provision for drawing for girls. They have in needlework of various kinds an opportunity of educating the eye and the hand; and for girls I regard this subject rather as an accomplishment than as a necessary part of a primary education.

2. How may handicraft be introduced where the teacher is clumsy and unable to instruct the pupils?—By employing the village carpenter, as at Oldcastle, and paying him a small sum, together with the results fees. The teacher will soon find it his interest to learn, and I am certain the number of candidates for certificates would rapidly increase. If any teacher undertakes to teach handicraft, a certificate need not be absolutely essential for the next three years, as in the case of drawing, and if he pass 50 per cent of his boys, he should, in the meantime, be paid the results fees earned.

A new sixth book is much needed. The new book should be composed largely of lessons on the science of common things.—The air we breathe: its component parts, the necessity of having it pure. Water: its component parts, its various forms, solid, liquid and gaseous, the various ways in which it promotes the welfare and civilization of man—whether to the people of the northern regions, in travelling rapidly from place to place on skates and sledges, in the fluid state; its benefits to commerce with distant climes, in its gaseous state, in propelling machinery, which may move the railway train or the steamer that rapidly traverses boundless seas and oceans; the advantages of having pure water for household purposes, the millions of ailments which polluted water causes, &c.

Lessons might also be introduced pointing out the various industries which may be carried on in an Irish cottage. In such a reading book a good deal of agriculture could be scientifically taught; such as lessons on the nature of soils; these consistent parts, the different degrees in which these nourish the roots of plants, how crops take matters from the soil which must be replaced by manures; the effects of frost in pulverizing the soil, the necessity of having the land exposed to the frost before the winter sets in, &c. Hogs or peat mosses: their nature, mode of formation, utility for fuel, how they may be reclaimed, &c. Simple lessons on the ancient sepulchral mounds and raths that are scattered over the surface of the country, lessons on cottage gardening, bee-keeping, fruit trees, poultry, &c. Lessons such as these would be far more interesting to Irish children than the dialogue between Socrates and the Doctor, the character of Will Wimple, or what Warren Hastings had been doing out in India more than a century ago. Several of the pieces of poetry could profitably make room for lessons of more practical utility.

FURBER, A.

3. As to providing that a shorter time should be given in each week to any subject than is now given to it, I have to state that the present lowest limit for all subjects is two half-hour lessons in the week, and that this could not in my opinion be reduced without serious disadvantage. Of course for the more important subjects of the programme such as reading, writing and arithmetic, far more time than two half-hours weekly is given in all time tables, but the exact amount of time necessary in each case must be left to the discretion of the Teacher, subject to the approval of the Inspector and the Commissioners of National Education. There is only one compulsory subject for which a very much longer time than the foregoing is required: I refer to needlework, which must be taught one hour a day on five days of the week. In my opinion this might without serious disadvantage be reduced to three hours weekly for second and third classes; and to four hours for fourth and fifth classes.

2. As to making certain subjects optional, I consider grammar might without disadvantage be made optional in all classes above fourth and might with

advantage be abolished in third and fourth classes. The grammar the pupils require is rather language teaching, which should be taken up with reading and explanation, combined also with composition.

3. There is no other compulsory subject I would recommend being made optional in any class.

The improvement I hope to see brought about in the programme of National schools is in making it more practical; in providing reading books that are within the range of the children's intelligence and interest, in making their geographical knowledge a reality by beginning with their homes and developing their observational powers, in teaching agriculture and other practical subjects with the same object in view. It is for these and similar reasons I should like to see drawing and some manual training more generally taught. It is much better that the children should be using their hands and their powers of doing and observing than that they should be employed (as in the case of grammar) in guessing what to most of them are mere word conundrums.

STROGER, S. E., M.A.

1. Changes in the present programme—such as those here suggested—will not only tend to improve the soundness and quality of the education given, but will reduce the amount of work on the part of the teachers, and thus cause a saving of time.

2. Freedom to promote his pupils from class to class when the teacher considers them qualified for promotion should be granted. This freedom, if granted, would increase the rate of promotion in the infants and first classes—in which promotion is too slow at present. On the other hand, teachers could retain for 18 months, or longer if necessary, those children of the higher classes who either attend irregularly or who are slow to learn. The teacher would here effect a great saving of time, as he at present devotes all his energies to secure the annual promotion of such children.

3. All the pupils below second class should be allowed to go home at 1.30 o'clock, and the second class at 2 o'clock, after a half-hour's drawing lesson. This would permit the teachers to give for the rest of the school-day their undivided attention to the other classes, and this also would effect a further saving of time.

I may here again express a very decided opinion—the result not alone of my own experience, but of the experience of the ablest officers and teachers in the service—that the working of the present programme and the present system of payment are doing grave injury to anything that deserves the name of education, and that any system of mental or technical instruction superadded and introduced on a similar plan must fail.

Details of changes in present programme suggested:—

Reading and spelling.—No change required except liberty in the choice of readers.

Writing.—The test in this subject to be confined to penmanship, whether copying or imitation of a hand line. Spelling and composition—as occurs in some of the classes at present—should not come under this head.

Arithmetic.—Programme or code in this subject to be removed from third class up to sixth; programme at present too high. All arithmetics to be amalgamated with principal head. Bills of parcels to be introduced and mental arithmetic and compound

addition to receive more prominence than at present. Stocks, profit and loss, square root, percentages and averages, and discount to be required in second stage of sixth class only.

Grammar.—Second and Third Classes.—Subject to be taught at object lessons and during reading lessons, by means of questions and answers—the children giving full answers. This is what is termed oral composition.

Fourth Class.—The form of a letter to be taught, and copies of letters to be made. Oral composition to be continued.

Fifth Classes.—A letter to be written on a simple subject—narrative—and the subject, predicate and object of a simple sentence to be distinguished.

Sixth Classes.—To write a letter upon a given subject. Simple and compound sentences to be analysed. A knowledge of grammatical forms in use at present to be required.

Geography.—Third Class.—Plan of schoolroom and playground. Four cardinal points. Use of a map.

Fourth Class.—General knowledge of the map of the country in which school is situated, and of a map of Ireland—amount to be defined.

Fifth Class, V.—General knowledge of physical and political geography of British Isles—amount to be defined.

Sixth Class, VI.—Same course as in first stage, with latitude, longitude, moon and globe. Easy map drawing.

Seventh Class.—General knowledge of Europe, British Empire, the seasons, day and night, map drawing.

Agriculture.—The course in this subject to be shortened, and the examination to be of a more practical character.

Book-keeping.—The present sixth set not to be required from any class. Syllabus of accounts to be defined, and teachers permitted to use any book they choose. To be confined to second stage of fifth and sixth classes.

Singing, Drawing, and Extra Subjects.—Singing and drawing to be taught inside school hours. All extras to be taught outside school hours, i.e., before 10 o'clock or after 3 o'clock unless taught to sixth classes—who may have the privilege of spending a fixed time per day in learning extra subjects.

APPENDIX G.

SULLIVAN, M., LL.B.

(a) The answer to this must necessarily depend on the value of the subject or subjects which it may be proposed to introduce in place of any subject which may be omitted. Subjects have a relative value, though it is not easy to determine in all cases this relative value. The obligatory subjects in our schools are reading, writing, arithmetic, spelling, grammar, geography, needlework in girls' schools, agriculture in rural schools for boys. By common consent reading, writing and arithmetic are considered absolutely essential, and most persons would add spelling as also needlework and agriculture. When properly taught, grammar and geography are useful subjects, but of course it may be thought that other subjects are still more useful. Grammar and geography are not as important as reading, writing and arithmetic, but I would not like to see boys and girls passing through all our classes, first, second, third, fourth, fifth and sixth, and leaving school with absolutely no

acquaintance with these two subjects. For this reason I am unable to say that either grammar or geography should be made optional until I know the subjects, if any, by which these are to be replaced.

(b) As our schools at present are, little, in my opinion, would be lost by delaying the introduction of grammar until pupils reach fourth class. (At present, pupils commence grammar in third class.)

(c) Except as regards needlework, the time given to each subject is left—subject to supervision by the Board—to the teacher's discretion; and so varies from school to school. It is therefore impossible to make a statement which would apply to all schools, but the instances in which too much time is devoted to one of the obligatory subjects are very rare. With our present school hours and school days I fear that little or nothing could safely be gained by shortening the time devoted to any of the obligatory subjects.

DISTRICT INSPECTORS.

ALLMAN, S., Farnestown.

(a) Agriculture might with advantage be postponed in schools where it is taught as a purely literary subject until the pupil has reached second stage of fifth, and even then it should be optional as it is incomplete when not accompanied by practical illustrations.

(b) Grammar and geography might be made optional to some extent. At present a pupil can be examined six times for results fees in grammar. A three years' course ought to be sufficient in the subject and it should be left optional with the teacher in which classes to present it, except that the third year's course should be completed before the pupil has reached sixth class. In sixth class there should be no special examination in grammar but it should be included in the subject of composition.

A three years' course ought also be sufficient in geo-

graphy, and the classes in which the subject should be presented might be left optional. The method of using maps and text-books as books of reference for information should be checked at rather than the actual storing up in the memory of lists of places and their respective situations.

With regard to spelling it should, like grammar, cease to be a distinct subject in sixth class and merge in the subject of composition.

(c) The time devoted to the compulsory subjects could not with advantage be curtailed. Reading, writing, arithmetic and spelling should be taught at least every day, and the remaining subjects should be taught not less than twice a week to those classes in which they form part of the programme.

BAXSON, E. T., Letterkenny.

(a) No portion of the present compulsory programme of instruction in National schools could without serious disadvantage be left optional or entirely dispensed with.

(b) Grammar might be left optional in the second stage of fifth and higher classes. With a re-arrangement of the present class programme in geography,

this subject might also be left optional in the second stage of fifth and higher classes.

(c) The dismissal of the younger children at an earlier hour than at present would facilitate the working of a system of practical instruction in our schools. The infants and first and, in boys' schools, the second classes, might without any disadvantage be dismissed each day an hour earlier than at present.

BATEMAN, G., LL.B., Edinwick.

(a) Geography and theoretical agriculture should be optional in all classes.

(b) In female schools it should be optional to use domestic economy readers, and an industrial branch might be substituted for plain needlework in sixth class, second year.

In all National schools, arithmetic in sixth class, second and third years, might be optional. Increased

time would thus be provided for headmistress, cooking, etc. The great majority of the children do not need such an extended course of arithmetic as the programme for this class specifies.

The course in grammar for fifth and sixth classes should consist of simple analysis, syntax, and correction of errors.

BESTT, H. M., LL.B., Newtownards.

(a) The National Board's present programme of compulsory subjects might, with advantage, be modified by making grammar and geography optional subjects in all those classes in which they are now compulsory.

The present defective state of reading shows that the paucity in grammar must be either the result of cramming or guess-work.

The present programme is so peculiarly graduated as to render the compulsory teaching of geography undesirable; but the specific teaching of geography might, with advantage, be replaced in the smaller schools by pleasantly written and graphically illustrated reading lessons in descriptive topography and in elementary physical geography—thus enhancing the interest of the reading lessons, while securing a

sight, but so far as it went, intelligent knowledge of geography; and, by means of the explanation of natural phenomena, opening a way for the intelligent teaching of the principles of agriculture. The compulsory programme for Irish National schools is rather extensive. Compare it with the English "Scheme for small schools in which the average attendance, exclusive of infants, does not reach 60," as set forth in the new Code for 1896 (pp. 57-8 N. U. T. edition).

Should grammar and geography cease to be compulsory, teachers will be enabled to devote themselves to such subjects as intelligent reading and mental arithmetic, which at present receive far too little attention;

and it is probable that a large number of teachers would be induced to qualify for drawing, the addition of which, under present conditions, would overload the programme of the less efficient schools.

(b) While a partial relaxation of the compulsory restrictions, in the case of the above mentioned subjects, would be better than none, the advantage in this case is not at all comparable to that of the total removal of the restriction.

(c) A more diminution of the time assigned to any subject could not be safely recommended. The time devoted to grammar and geography at present is an absolute minimum.

APPENDIX C.

BROWN, W. A., B.A., Dublin, S.

(a.) The subject that might be omitted with least loss is grammar. As it is taught at present in the schools, grammar does very little to help the pupil to understand what he reads, or to speak correctly. The explanation of the reading lessons might be made to include an untechnical analysis, and oral composition should be taught throughout the school day, the pupil being obliged on all occasions to express himself correctly and completely. At present grammar is taught for three half hours in the week; one hour of this time might be assigned to some other branch, leaving half an hour, which ought to be given to reading combined with such language teaching as referred to above.

(c.) Another branch to which too much time and attention are given is arithmetic. The course is much too advanced for primary schools, and cannot be properly taught even to pupils who attend fairly, without sacrificing other valuable work. By lowering the standard for the senior division, an hour a week might easily be set free for some other work.

It would not be wise to give up instruction in geography, and the time given to this branch cannot be reduced. Complete ignorance of geography at the present day would be a serious loss even to the humblest pupils of the National schools; and if there is not definite, direct, instruction in geography, it will not be learned at all. There may be too much attempted at present under the head of geography, but the excess is rather in the matter presented than in the time given, which is the minimum possible for useful work.

The suggestions now made would leave two hours and a half per week for distribution, but a portion of this time should be assigned to reading, explanation, &c., which have suffered seriously.

Mr. Brown adds: "Though the matter is not directly included in the terms of your circular, I take the liberty of suggesting that the teachers might be expected to do some work on Saturday, which, in almost all the schools, is a *die non*."

BROWNE, W. J., M.A., Londonderry.

(a) None of the subjects of the programme that are obligatory for all schools and all pupils could, without serious detriment, be made optional generally; all are essential in any course of instruction deserving the name of education.

(b) And none of them could with propriety be made optional for any class in which they are now taught.

(c) But, a plan could easily be devised by which a shorter time should be required for them in the higher classes.

In the first place new and improved reading books are necessary. They should be carefully compiled with the double aim of enabling the pupil to master the art of reading much more rapidly than is now done, and of imparting, in a pleasing and progressive manner, a knowledge of common things, and of many of the subjects now placed outside the range of instruction, or relegated to the position of extras.

The time devoted to agriculture at present is, to a large extent, wasted. A simple and progressive series of lessons on the subject inserted in the reading books, and a special extra course provided for the highest class would bring the leading principles of the subject

before all the pupils, and make provision for a good practical training course where it was considered necessary.

Needlework is an exceedingly useful branch of instruction for girls, but equally good results would be produced by the teaching it half the time now devoted to it. Experience points to the conclusion that the needlework now executed is not, in general, so good as that done when the time was limited to half an hour daily. At present, in most schools, girls devote an hour daily to needlework, and thus spend an hour a day less than boys on the compulsory subjects; yet the answering of the girls on these subjects is usually better. Boys should occupy the same time on the compulsory course as the girls; and the hour spent by the girls at needlework should be given by the boys to elementary science, to agriculture, or still made obligatory, and to manual training of some kind. If the time for needlework were somewhat reduced, the girls could participate in the scientific and practical subjects to some extent.

Thus, some time might be spared in the senior classes from that now devoted to the compulsory subjects.

CHAMBERS, J., B.A., Strabane.

No re-arrangement of the National Board's present programme of compulsory subjects would be of advantage to education in this district (Strabane).

The majority of the schools of this district are situated in rural localities, and the attendance at them is consequently very irregular.

CORBINSTON, A. J., Rosemead.

(a) Geography might be made optional without much disadvantage to the children. The instruction in this subject, as at present given in most of the National schools, is, to a great extent, unreal and without much practical value. It might, however, be desirable that in schools in which the systematic teaching of geography was discontinued, some elementary notions should be imparted to the children regarding the shape of the earth and its leading physical features, and how they are represented by means of globes and maps.

Grammar should not be discontinued in any school: to do so would be a distinct lowering of the literary character of the instruction. To teach children parsing may not, perhaps, be the most efficient method of training them to the correct use of language, but it does not consequently follow that no attempt should be made to lead them to understand and apply the laws of speech in a correct manner.

Instead of geography occupying a five years' course, it might be restricted to three years—the first year being occupied with local surroundings and the geography of Ireland—the second, with the geography of Great Britain and the Colonies—and the third, with general geography. The instruction should, of course, be confined to what is really essential and practical.

(c) The present course in arithmetic might be shortened. Arithmetical and geometrical progressions, compound interest, partnerships, &c., might be omitted. It might be sufficient to confine the children to calculations of general occurrence in ordinary life. At the same time arithmetic should be taught, not merely for the sake of its practical utility, but also with the view of furthering clearness of reasoning and habits of correct thought.

CONNELLY, W. R., B.A., Tinn.

(a) Grammar, the programme for which could be re-cast and adapted to the closing years of school, might be made optional.

(c) With the exception of needlework, no length of time is fixed by the Education Department for teaching any of the compulsory subjects. The school timetable generally is not always drawn up by the teacher.

To suit the circumstances of the various kinds of schools, urban and rural, large and small, rich and poor, important and unimportant—the minimum of instruction should be divided into one portion common to all schools and fixed by the department, and

another which might in part at least be left to the discretion of those interested in a particular school and cognisant of the wants and opportunities of the locality.

The universal minimum should include reading, writing, ciphering, with agriculture for country boys, and needlework for girls. A course of commercial geography could be added, but only during the last years of school life. In the girls' sixth class, for all the industrial work as a rule now taught, one hour daily would suffice. This minimum would occupy a part of the school day.

COX, H., Coleraine.

But little change should be made in the compulsory programme now in use in the National schools of Ireland.

(a) Possibly grammar might be made an optional subject, but then drawing should be compulsory in all classes—not exceeding over the infants. All boys

not over ten years of age (say) should be taught knitting and plain sewing as a compulsory subject.

Mr. Cox adds—I think I may with propriety add that generally—I know hardly an exception—the managers of my present district would regret any extensive change in the system of payment by results.

COYNE, J. A., B.A., Tinn.

(b) and (c) Grammar and geography are extremely useful subjects if rationally taught. That they are not rationally or usefully taught in many of our National schools is, indeed, a matter of concern, but is not the less a fact. The teaching of English grammar should be in subordination to the teaching of English composition, and if a sound knowledge of the latter be required by the advanced classes of any school, the teacher will have done his duty so far as the teaching of the former is concerned. This object can be as well attained by deferring the teaching of grammar till the pupils have been promoted to fourth class, and the dropping of this subject in third class will give time which could be devoted to manual instruction. This latter, indeed, to be attended with success, should be begun at an early stage of the pupil's career.

As to geography, everyone should have some acquaintance with the world in which we live, its inhabitants and its productions. Geography should

be taught connectively—beginning with the pupil's home, his knowledge should extend to his native county, next to his country, then to the rest of the world, as far as practicable.

Geographical readers, supplemented by map teaching, would be sufficient for all purposes. As in the case of grammar, this subject should be introduced only when the pupils reach fourth class. In fourth and higher classes grammar and geography should be taught, but the instruction should be rational, practical, and useful.

Mr. Coyne adds—I would venture to make a suggestion which, though outside the scope of your circular of the 19th February, may not be useless. Every school should be provided with a pair of scales and a set of weights and measures, which the pupils should be taught to handle and use. They will thus be trained to form ideas of magnitude, dimension, and mass.

CRAIG, ISAAC, B.A., Voughel.

(a) Agriculture should be an optional subject in any school where there is no way of making the instruction practical.

(b) Grammar and geography should be optional subjects in fifth and sixth classes.

CROMIE, R. S., R.A., Killarney.

Some modifications of the revised programme could be made with propriety. The obligatory portion of the programme should be confined to the following subjects—Reading, writing, arithmetic and spelling, with agriculture for boys of the higher classes (fourth to sixth inclusive) in country schools, and needle-work for girls. In town schools drawing should be substituted for agriculture.

(a) Grammar might be safely dispensed with altogether as a separate branch, but in order that the pupils should not be ignorant of the principles of the subject, the pass in writing in the fifth and sixth classes should be tested partly by the pupils' penmanship, and partly by his proficiency in composition, strict regard being paid to grammatical accuracy. By this means each boy in the higher classes would be obliged to possess such knowledge of grammar as would enable him to speak and write correctly, and thus would be quite sufficient to meet the necessities of the case.

(b) Geography should not be taken up until the pupils reach fourth class, when it might be taught as an optional branch. For the fourth class the map of Ireland would be sufficient; for fifth class (first stage)

the map of Ireland and the outlines of the map of the world. For fifth class (second stage) a general knowledge of the geography of the British Islands should be required. In sixth class a more detailed knowledge of the fifth class programme should be exhibited, together with some acquaintance with the main outlines of the geography of the United States of America, on account of the deep interest which the latter country possesses for the Irish people.

Should geography be made an optional branch, as here recommended, the present reading books should be revised, and amongst others interesting descriptive geographical lessons should be introduced.

It would be a mistake to remove agriculture from the list of compulsory subjects, but no satisfactory progress will be made in this branch until the present theoretical is replaced by a more practical method of instruction.

(c) At present the Commissioners of National Education do not, within reasonable limits, interfere with the discretion of the teacher as to the time to be devoted to each branch in each week.

CUSSEN, J. S., R.A., Ballymena.

(a) In backward localities, where the attendance is very irregular, grammar and geography might be made optional. It is difficult to devise a programme of compulsory subjects which would suit schools in all places.

(b and c) In other schools as much grammar and geography might be retained as would, for both subjects, occupy half an hour daily, and less of the time available for home lessons than the present courses require.

Grammar.—As grammar develops a new class of ideas and affords a valuable training in accurate thinking and speaking, it ought to retain some place in schools, but a sound knowledge of the fundamental principles is in primary schools more important than extensive developments (which are seldom accurate), and in the higher classes it might with advantage be replaced by a subject like geometry, which combines mental discipline with practical application. If suitable text-books were provided, the present courses would not be too extensive where the subject was taught.

Geography.—A great deal of the pupil's time and energy is spent in learning a mass of disconnected facts, which are of little service, and are forgotten faster than learnt. By excluding the unnecessary matter now studied, the course in geography might be reduced to half its present amount, and further still if good geographical readers were introduced.

Reading.—At present one lesson a day is hardly enough for the senior classes, but with more suitable books less time would suffice, or where readers of a special class, as geographical readers, were used, time might be saved in other directions. The readers used in the higher classes are compilations from the works

of the best writers, but are too much above the heads of the pupils to serve as good school books. With the present readers the pupils can do little without the teacher's help, and even with this assistance they only acquire a vague uncertain knowledge of the matter the books treat of. The difficulty to be overcome is too great, and instead of stimulating the pupil only discourages him. In addition to other advantages much time and labour would be saved if more suitable readers were used.

Arithmetic.—Suitable text-books are available for teaching this subject, and it is fairly well taught. If, however, it is desired to gain time in the school-day for new subjects, a great deal might be done by lessening the courses in arithmetic. Two or three lessons of half an hour each are usually given to this subject daily in the higher classes, and if the courses were so reduced that one would suffice, a considerable amount of time might be gained for some other subject. Cube root and complex questions in compound interest and a few other details might be omitted.

Agriculture.—As far as this subject is taught from books alone, much more cannot be done than to render clear the chemical and biological cause of facts ascertained by experience, and to train people to rely more on scientific principles than on local custom. If their school training enabled farmers to make intelligent use of a good book on agriculture, much would have been gained also; but the state of mind at present to teach the art by directions alone is of little use, though it claims a large part of the pupil's time, and does not render the principles clearer. A text-book dealing with the principles could be mastered with less time and labour than the book now in use.

DALTON, J. P., R.A., Belfast North.

(a) Grammar and geography—that is to say, the technical treatment of these subjects—could be made optional. The time devoted to each of these subjects at present is usually half an hour on each alternate day, as the result of their abolition, therefore, two hours and a half per week would be at free. A good part of this—say, one hour or one hour and a half—could be used in the most profitable way by being applied as an extra allowance of time for the reading lessons.

The removal of formal grammar and geography from the obligatory programme need not mean the complete abolition of instruction in these subjects. They could be incorporated with the lessons in reading and writing. Pupils should be trained to read geographical narratives with the actual maps of the countries described open before them. This would reach them the use of a topographical map—which is really all that ordinary people require. Grammar, so

far as it has to do with correct speaking and writing, could be best dealt with, for the great majority of pupils, in conversation lessons. More incidental teaching should not be accepted; the instruction would admit of being regularly planned and systematised, and much useful work bearing immediately on the correct use of language could be done in this way.

(b) Technical grammar and geography should be made optional subjects, and be postponed to a later period of the school course than at present. The proportion of the pupils attending National Schools, who advance beyond the fourth or first stage of fifth classes is very small. By taking up grammar and geography for the first time in the lower fifth class, the following advantages would be gained:—

1. The pupils who will not afterwards have an opportunity of applying text-book knowledge would be relieved from the severe pressure now attendant on such lessons.

2. These pupils would have more time for the other subjects of the school course, and more could therefore be done for their educational training.

3. The pupils who would afterwards require technical grammar and geography could also get a better preparatory training while, with revised programmes,

they might subsequently be taken in three years over the ground which now occupies five, and thus arrive at their destination without any loss of time.

Another obvious mode of saving time for the fundamental branches of instruction consists in removing all extra and optional subjects from the work of the regular school-day. The attempt to crush these in among the ordinary course leads to waste, not only by the actual rising up of so much time, but also by the fatigue which the pupils experience after due application to severe studies.

The ordinary school-day should be filled up altogether by exercises in:—

1. Reading, penmanship, orthography, arithmetic, and their sub-divisions.

2. Music, drawing, manual training, object lessons (or nature study.)

3. Agriculture (in rural schools) and book-keeping.

The subjects of group 2 are the natural continuation for the senior school of the vocal and kindergarten exercises of the infants' school.

[Mr Dalton refers to his general report on his district in the Appendix to the Report of the Census of National Education in Ireland for 1895.]

DALY, L. M.A., Mallow.

(a) Grammar, as at present taught in our schools, might very usefully be made optional, at the same time, to secure the end which is now aimed at by the teaching of this branch, but which is not achieved, the teaching of analysis in connection with the reading of fifth and sixth classes should necessarily be substituted.

(s) For this reason, even if grammar, as at present taught, were made optional, no additional time would, therefore, be secured for other purposes, and no less

time in each week could be permitted for the teaching of any other subject consistently with effective instruction therein.

If additional time were needed for practical instruction it could be easily provided by making Saturday a school-day.

[Mr Daly refers to his report in the Appendix to the Report of the Commissioners of National Education in Ireland for 1895.]

DEWAR, E. P., M.A., Lurgan.

(s.) Grammar and geography might be made optional, and

(b.) They might be first taught to fourth class.

(c) The time for needlework in the second, third, and fourth classes should be restricted to one half-hour each day. This subject should be taught to the first class and to the advanced sections of the infant class for one half-hour on three days each week. Agriculture

should begin with the junior fifth class, and not with the fourth class, as at present.

Mr Dewar adds:—If it were not travelling outside the scope of your letter, I should like to suggest that the elementary facts of physics, illustrated by simple suitable experiments, should form part of the curriculum of National schools—that is, be made compulsory.

DUCKIE, J., B.A., Dunganannon.

(s) The teaching of grammar should be made entirely optional in both male and female schools. It is scarcely too much to say that in three-fourths of the schools in connection with the National Board this subject is taught in such a manner as neither to protect the pupil from errors of writing and speech, nor to give him that valuable training in observation and inference which proper instruction in the subject should bestow.

(b) Agriculture.—Pupils of fourth class (age nine to eleven) are too young to understand the principles of this subject, and the isolated facts, which are now

by constant repetition and questioning implanted in their memories, are of very little value. This subject should not be begun till the first stage of fifth class.

(c) No branch (with the possible exception of writing) now receives so much of the teacher's time. On the contrary, many subjects do not receive sufficient time, with the result that "cramming" takes the place of teaching, and partial or fragmentary knowledge is imparted. There is no reason why the present minimum school-day should not be extended by—at least—one half hour.

FITZGERALD, D. P., B.A., Ballinamore.

(a) All the subjects at present compulsorily taught in our schools are distinctly useful, any change that is made should be in the text books in use, or in the programme for the several classes.

Not much good would be effected by making some of the subjects optional. These subjects would continue to be taught with the same measure of success as heretofore.

(b) Some alteration might, with advantage, be made in the programme in grammar. The present combar-

some system of parsing should be dropped, and more attention should be given to training the pupils to speak and write English correctly. Assuming that this has been done in some degree in fourth class, fifth class pupils should receive elementary notions regarding analysis. Grammar might then receive less attention in the highest class.

In the programme of geography and in the text books in use there is room for considerable improvement. Lessons, similar to those in the Third Book, in

"Foreign Countries" should be more generally introduced into the reading books, or a regular "Geographical Reader" should be read in the different classes. The pupils should receive some idea of the climate, physical features, and products of the different countries, as well as of the social and industrial habits of the people, and should thus learn the secret of the success of any country or nation. In connection with these lessons maps should be always made use of. Geography taught in this manner would prove more useful and more interesting than at present, when the information of the pupils is derived by the troublesome and unprofitable consulting to memory of long lists of names of places, lengths of rivers, heights of mountains, &c. These general notions could easily be acquired by the time pupils have passed into sixth class, the subject would then require less attention, or might be extended to include physical geography or some of the other sciences.

Agriculture is perhaps one of the most important subjects in rural schools. No relaxation of the rule referring to that subject should be made.

In the industrial programme some change seems necessary. The scheme as at present worked is unpopular. It is not easy to discover the cause of this unpopularity. The ordinary programme should be followed in sixth class in girls' schools, and still more so in mixed schools. The Girls' Reading Book or some treatise on domestic economy should be adopted instead of the ordinary Sixth Book. The industrial subjects might be taught as optional or extra subjects to the exclusion of subjects occasionally taught in girls' schools.

(c.) With such changes it should be possible to arrange that less time may be given to the subjects in the higher classes.

FITZGERALD, P. J., Millstreet

Grammar should not be taught in any of our schools until the children have reached fifth class. It is very necessary to teach reading more thoroughly to the junior classes than has hitherto been done, and the time devoted to grammar and geography in third class should be devoted henceforward to reading and to such object lessons as would assist children to read with interest and profit. It should be the duty of every teacher to give a few introductory lessons on the form of the earth, the nature of maps, and a few leading facts about animal and vegetable distribution, and how these last are affected, so that maps may be

referred to for purposes of illustration, but there should be no geography, as at present taught and examined, in third class, and the subject should be optional in fourth class.

None of the other subjects of the ordinary school programme could be dispensed with, but there is one optional subject, namely, book-keeping, which is of very doubtful educational value, and which in the senior classes (5th, 6th, and 7th), absorbs time that could be turned to much better account, and it would be well to have the subject removed from the school programme altogether.

FITZPATRICK, P., Rathkeale

Mr. Fitzpatrick submits the following suggestions for the consideration of the Commission.

1. Infants.—All schools to be supplied with pictures and models in wood or cardboard of common objects. Lessons to be given in these objects, and the pupils to be taught to draw them. Pictures and letter books should also be supplied.

2. Class I.—Should have models of horses, carts, wheelbarrows, ships, boats, &c., admitting of being put together with page or pin. Pupils should draw them. They should also learn the use of needle and thread in outlining animals.

3. Class II.—In addition to present programme, to learn—(1) Multiplication with one figure, (2) Drawing, (3) Needlework, as in Class I., (4) To make little mats, baskets, &c.

4. Class III.—Grammar and geography to be omitted. Part of the time thus gained to be given to reading, and repeating in pupils' own words the substance of the lessons. This would improve the pupils' vocabulary, give them an idea of the sequence of thought in narrative, prepare for composition: grammar as best learned in this way. Pupils should be taught to recognise common grasses, crops, trees, &c. They should be supplied with detailed models of houses, boats, &c., for putting together, and they should be taught to make simple models with a knife.

5. Class IV.—Grammar should be omitted, but as before, pupils should be taught to paraphrase lessons only. Geography should be taught from geographical readers, and in front of map. Pupils should be taught house and agricultural measures. Agriculture should be practical, both as regards instruction and examination, and pupils should be taught to recognise common plants and grasses, &c., and to make collections of them. They should also be taught a brief practical course of structural botany, as far as regards plants of farm or cottage garden.

6. Class V.—Grammar of groups of words, or analysis and oral paraphrase. Use of geographical readers, and, in girls' schools, of domestic economy readers. How to use a dictionary: the botany of the farm and garden.

Mensuration should be included in the arithmetic programme.

7. Class VI.—Mental arithmetic and mensuration, analysis, geographical readers, paraphrasing, elementary zoology and entomology with reference to the farm and garden.

Girls should have domestic economy readers. They should be taught fancy needlework, and, if possible, cooking.

In arithmetic they should learn only the simple rules, bills of parcels, house-keeping accounts.

8. Class VII.—Reading and paraphrasing. Arithmetic and mensuration, counting stocks. Analysis, agriculture—to recognise and judge quality of soils, to have a fair knowledge of the common kinds of stones, and to make collections of them. Domestic economy (for girls).

9. Drawing should be begun with infants, and continued throughout all classes.

10. A small library for the pupils' use should be in all schools.

11. A suitable manual of "analysis" should be drawn up for use in schools.

12. Fifteen or twenty minutes daily should be devoted to drill and marching, accompanied by songs. A suitable book on drill should be supplied.

13. Agriculture and allied subjects should be part of the teachers' examination.

14. Teachers should work longer in their schools, either on ordinary days or on Saturdays—this extra time to be given to industrial instruction.

15. In a well devised scheme of manual instruction, the senior boys could make the models required for junior classes.

16. Girls of third and fourth classes might be taught to make dolls' dresses in coloured tissue paper as preparation for cutting out in cloth.

17. If present system of examination were shortened, inspectors might visit their schools oftener, and so ensure greater efficiency.

18. The present system of weights and measures should be condensed, and the decimal system adopted.

HEADEN, W. P., B.A., Dublin, No. 3.

ARTICLE C

(a.) It is difficult to consent to the suggestion that any of the present compulsory subjects of the National Board's Programme should be reduced to the conditions of an optional subject. The only ones threatened are, of course, grammar and geography. Of these, experience shows that grammar is almost the only intellectual subject at present on the programme—the only subject that teaches, and obliges, the children to think, and as such it is of distinct educational value. Arithmetic, even, has become almost wholly mechanical: "rules," formulae, expedients, &c., and the wholesale use of "cards," have reduced every kind of problem to a question of multiplying or dividing, &c., without troubling the learner much to look beneath for the rationale of any process. Grammar should certainly not be interfered with.

Again, geography is both formative and informative; it is a fine exercise for the memory, and the facts acquired are of decided utility. At the same time, if any subject be sacrificed, this is the one to deal with, though it may be observed that in the great majority of schools only two half hours are devoted to it each week. In any case, it would be of advantage to the cause of primary education if the programme of geography were entirely revised. The course at present is too extensive and is too exclusively confined to the department of local geography. The subject might commence with second class pupils, from whom a knowledge of the points of the compass and of the map of the school and its immediate surroundings might be required. In the higher classes the resources and productions, climatic conditions, and other circumstances of interest, should receive more

attention than they do now, and Ireland, with its antiquities and scenery, its railways and resources—actual and possible, no less than its mountains and rivers, &c., should constitute the main feature of this subject.

(b.) It would be better to make the subject optional altogether than optional in some classes, while obligatory in others.

(c.) The time given to this subject at present is so short that any curtailment of it would take altogether from its educational value and lead in the direction of error.

Mr. Headen adds—As the reason for desiring the omission wholly or partially of some of the subjects at present compulsory, lies in the desire to make room for the introduction of some form of manual training suitable for boys, I beg leave, with great respect, to call attention to the fact that while the girls of our schools at present take up precisely the same subjects as the boys (Agriculture in rural schools alone excepted) covering in most cases a course of precisely the same extent, they are able to complete on equal terms with those same boys, notwithstanding that they devote one hour every day to a form of manual training that has nothing to excite it either on the score of educational merit or practical usefulness—I mean needlework in the varied branches.

I may add that I yield to no one in an earnest desire to see some simple, practical, and well-graded course of manual training associated with the essential formative subjects that constitute our present system of primary education.

HOGAN, J. F., Ennis.

(a.) It would be well to make agriculture optional for all classes or to be more exact to regard it as an "Extra benefit," and only teachers holding special certificates to be allowed to teach it under some conditions as now apply to Latin, Botany, &c.

(b.) Grammar and geography might be removed altogether from the third class programme, and only one of these subjects should be taught to pupils in the fourth, fifth and sixth classes, say, grammar to those in the first stage of fifth and in sixth, and geography to those in the fourth and second stage of fifth.

(c.) Much less time would be needed each week for agriculture, grammar and geography. Agriculture could be taught outside ordinary school hours and only

half the time, or less, would be required for grammar and geography, thus leaving more time for intelligent explanation of reading lessons, a branch now lost sight of in the effort to keep up with the present extensive range of subjects. In the second stage of fifth class and in sixth class the arithmetic programme is very advanced and might with advantage be curtailed. More time would then be available for intelligent study of a reduced range of subjects, each subject to be more thoroughly gone into.

[Mr. Hogan refers to his report in the Appendix to the Report of the Commissioners of National Education in Ireland for 1896.]

HUGHES, R. W., B.A., Bantley.

As the time devoted to literary work at present is only four or four and a half hours daily, no very radical change can be made if the pupils are to have such an English education as the majority of them would require to fit them for the work of after life. Yet keeping this object in view, a change might be made in one or two particulars.

(a.) Grammar, as at present taught, too often proves a failure as a useful study, from the difficulty the average teacher finds in making it interesting. This then might be left optional, to be taken up only by the best and most successful teachers; or instead a simple scheme of analysis might be added to the reading programme, and this would have the effect of better elucidating the meaning of the text, and so

lessen the present existing evil of merely mechanical reading.

(b.) The programme in geography is now too minute in details in fifth class, second stage, and too extended in sixth class. It might be altered in two ways, either simplified throughout the classes so as to occupy less of the school time, or compressed so as to be completed in fifth class, second stage, leaving sixth class free from the study of this subject altogether.

All extras, except singing and drawing, should be rapidly excluded from the ordinary school hours, and the privilege of teaching extras at all should be denied to all except teachers who had proved themselves masters of their work in every particular.

HYNES, J. J., M.A., Dublin, N.

(a.) Grammar, as at present taught—to wit, parsing, and a knowledge of the text-book—should, I think, be left optional. A more practical kind of grammar (speaking and writing correctly) should, however, be compulsory, and might be taught partly by the pupil's style of answering and partly by composition, which should be obligatory from third class up.

In backward localities, where the attendance is of necessity very irregular, and where the home surroundings are unfavourable, geography, too, might be left optional. The teachers of schools thus circum-

stances have quite enough to do to prepare their pupils in reading, writing, arithmetic, and spelling.

(c.) As the compositions, as a rule, would be executed at home, more of the school time would be left available for other purposes. Avoidance of gross blunders and of local vulgarisms should be looked for, rather than style or expression, in these compositions.

The time at present devoted to arithmetic might with advantage be curtailed, and the courses for the senior classes should be simplified.

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KEENAN, M., M.A., Monaghan.

(b.) As a large proportion of the pupils attending our schools do not go beyond fourth class, grammar and geography should be optional subjects for pupils of third and fourth classes.

(c.) Too much time is given to arithmetic—five hours each week. Two and a half hours each week

would be sufficient. Again, arithmetic and geography might be taught as home lessons. This would give two and a half hours each week additional.

In addition the play half hour would be available for manual and practical instruction.

KETCH, J., M.A., Westport.

(a.) None of the subjects now compulsory could, without disadvantage, be made optional in every class. The only subjects that could at all be made optional are grammar and geography. If either of these subjects is made optional in every class it will, as a rule, be not taught at all.

(b.) Grammar might be made optional in the second stage of fifth and in the sixth class. If a pupil has passed through the third, fourth, and the first stage of fifth classes, he will have acquired a substantial acquaintance with grammar, embracing a knowledge of the connection of the different words in a sentence, and enabling him to write and speak without serious blunders. Further hints could be given by the teacher in the higher classes during the time devoted to reading or letter-writing, if grammar is not then taken up.

Geography is useful to a certain extent. What, however, a pupil has acquired a fair acquaintance with his own country and with the leading countries in the world, the compulsory teaching of the subject should cease. Geography should be obligatory in the third, fourth, and fifth (first stage) classes, and optional in the fifth (second stage) and sixth classes. Lessons of a geographical character dealing with the British possessions might, with advantage, be introduced into the senior readers.

(c.) Less time could not be given to the compulsory subjects per week. Although reading and arithmetic are, as a rule, taught for an hour per day, yet the proficiency arrived at in the past was generally indifferent. Explanation now forms portion of the pass work in reading in certain classes, and consequently the time devoted to this subject could not well be curtailed.

KELLY, P. J., Downpatrick.

(a.) No one, it is to be presumed, will consider that any of the obligatory subjects of the National School programme, except grammar and geography, should be made optional. These subjects, though the programme may admit of modification, ought not to be made optional. In a country where most people speak and write the language correctly, the teaching of grammar might, to a large extent, be dispensed with. Not so in a country like Ireland, where, unfortunately, the spoken language is too frequently at variance with the rules for correct speaking. This tendency must be combated by teaching in our schools the rules that govern the correct speaking and writing of our language. As regards geography, the method of teaching this subject may be modified in the programme, certainly, but as to the necessity for teaching it, there can hardly be two opinions.

(b.) Grammar ought to be begun in fourth class instead of third. At this stage the judgment of the pupils will be more matured, and there will be ample time in the higher classes to complete a useful course of instruction in this subject. Latin and Greek roots should be omitted altogether. They can be learned systematically should the pupils afterwards take up the study of Latin and Greek. Without a knowledge of these subjects the roots are well nigh worthless.

They only tend to give the pupils an undue regard for mere word learning. As the geography course is practically the same for both examinations of sixth class, this subject could be dispensed with for the second examination of this class. The leading points would be quite sufficient without going into details that the pupils are now expected to know. Their time might be far more profitably employed.

(c.) As there is seldom more than an hour or an hour and a half in the week devoted to grammar or geography, this time could hardly be lessened. It is just possible that arithmetic may be receiving too much attention. It usually receives twice, and often three times, the portion of the school time devoted to reading. If the programme were made easier for each class from third to sixth inclusive, one or one and a half hours in the week could be made available for other work. Beginning with third class, compound addition of money might be omitted in this class, but included in fourth class programme. Similar omissions might be made in fourth and higher classes. And if, as a result, cube root, proportions, etc., have to be thrown overboard, they are a small loss.

Map-drawing might be omitted. It is very seldom properly taught, and its omission would in effect be of little or no consequence.

LEHANE, D., B.A., Boyle.

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The minimum of time (four hours a day) for literary instruction in National Schools could not be much further curtailed without serious detriment to the literary instruction of the pupils attending these schools.

Some slight modifications might, however, perhaps be made without doing much harm.

(d.) As present grammar and geography are taught to pupils in third and fourth classes. The teaching of these subjects might be abolished in third class, and, in a modified form, which would not need the devotion of so much time to them as is given at present, they might be left optional in fourth class.

(e.) The teaching of agriculture to fourth class pupils, who are generally too young to benefit much by instruction in this subject so early, might also be discontinued, but instead a text-book on agriculture should be made the reading book for either first stage or second stage of fifth class. Nothing would tend so much to a successful, intelligent, theoretical knowledge of agriculture as making a text-book on the subject the reading book for one of the senior classes.

Assuming that a treatise on agriculture were made the reading book for first stage or fifth class, instruction in the subject to second stage, fifth and sixth classes in a more advanced, or in a practical form, could afterwards be continued.

Grammar and geography should continue to be taught to fifth and sixth class pupils. The course of instruction in these subjects could, however, be made more elementary than it is at present.

The greatest saving of time in the senior classes would, however, amount to no more than half an hour a day, which might be made available for teaching drawing.

Mr. Lehane adds—I hope I am not transgressing the matter of reference in your circular when I state that I am of opinion that, unless under exceptional circumstances, the giving of manual instruction in a school should not take place while portion of the school is engaged in literary work. In a large school, with a numerous staff, provided with a separate work-

room, a member of the staff or a specialist might take charge of an industrial class at any suitable appointed time; but in the great majority of the schools of Ireland that are staffed by a principal only, or, as in some mixed schools, by a principal and an assistant, and that have no suitable separate work-room, it would be very detrimental to the literary work to endeavour to carry on manual instruction at the same time. Besides the manual instruction itself would, in such schools, be attempted under difficulties, and could scarcely be successfully carried out.

There are, however, two ways in which manual instruction could be given in small staffed schools, with little or no detriment to the literary instruction.

One way is by giving this instruction on Saturdays. Saturday is at present a free day with most teachers and pupils, and, with suitable inducements, teachers would, I believe, devote two, three, or four hours on Saturday to manual instruction. An objection to Saturday is that there might be some difficulty in inducing pupils to attend school in these small numbers on that day.

The other way is by devoting a large portion, say, one half, or more if considered desirable, of one of the regular school days exclusively to industrial instruction. On this day the whole school-room, which in most cases consists only of a single room, would be available as a work-room. In this case there would be two or three hours a week taken from the time usually available for literary work, but this time will be taken over in the form in which it can do least injury to the literary instruction, and will fall equally, or nearly so, on all the literary subjects.

Excepting in the case of the large-staffed schools above mentioned, the worst possible arrangement would be to attempt manual instruction daily, or to attempt to give manual instruction to one section of the school and literary instruction to another section at the same time.

These remedies do not, however, apply to drawing or to instruction in the theory of any subject in which practical instruction might at another time be given.

LYNAM, J. P. D., B.A., Templemore.

(a.) The following subjects in the National Board's present programme might be made optional—

Grammar, as at present taught. Though a good mental exercise, it has no practical application, and is not recognised, or at least not required, in the elementary school programme of any other country.

Agriculture.—This subject, when the pupils are thoroughly grounded in the text-book, has a most persuasive effect on the intellect of the pupils, training them, as it undoubtedly does, to dissociate in their

minds everything which they learn in a school-book from everything which they see and hear in ordinary life.

The various "sub-heads," such as recitation of poetry, &c., might, with advantage, be made quite optional.

(c.) Much less time might be given to the study of geography. It should be confined almost entirely to the free-hand drawing of maps; and it might be dispensed with entirely as sixth class.

M'ALISTER, J., B.A., Ennisceorthy.

In view of the terms of your communication I confine myself to the present state of things; should assistant teachers be recognised with a lower average attendance, much of what follows might be modified.

Speaking generally, the time at present devoted to the essentials of a primary course—reading, writing, and arithmetic—could not be curtailed without serious disadvantage to education. Consequently time for manual or industrial instruction must be obtained by an extension of the ordinary hours, or by the utilisation of those now given to the other portions of the obligatory programme.

Where, as is practically universal in the country, children arrive at 10 and leave at 3 or 3.30, longer hours are not feasible; the time table of a continental

school, where the people reside in villages, and an interval and substantial meal are possible, is inapplicable to the average school in Ireland, the pupils of which may live one, two, or more miles distant.

There is, however, in the week a *dies non*—Saturday, which might be utilised for technical instruction, extra payment for extra work the teachers would naturally demand; but such a matter it is not, of course, my business to discuss.

Any re-arrangement of the hours on the other days of the week by any of the methods (a) (b) (c), mentioned in your letter, must depend on the character of the school.

I may regard my present district, almost co-extensive with Co. Wexford, as fairly typical.

Of 148 schools there are—

- (1). 8 Convents.
- (2). 8 P. L. U.
- (3). 33 male.
- (4). 30 female.
- (5). 74 mixed.

In classes (1) and (2) there is an ample staff available, and some of the time now given to grammar and geography might be devoted to technical instruction, were these subjects made optional, or the programme therein made easier.

With regard to class (3)—male schools—of present as a rule half an hour is assigned daily to the theory of agriculture; this time might be devoted to practical instruction. Of the value of theoretical teach-

ing of this subject (i.e., its usefulness) I have expressed my opinion in this year's Educational Blue Book.

I do not see how any other time is available for other manual instruction unless grammar and geography, as separate subjects, are entirely dropped.

As to class (4)—female schools—one hour a day is at present given to needlework; portion of the time might be allotted to industrial education connected therewith.

In conclusion, I beg to state that, when I refer to the necessary dropping of grammar, &c., as separate subjects in all or in some classes, I do not wish to be taken as expressing any opinion as to the desirability or otherwise of such a course.

McCLINTOCK, W. J., M.A., Cavan.

The following modifications could, without disadvantage, be made in the National Board's present programme:—

(a) Grammar—Optional.

(c) Spelling from Dictation omitted in the case of the fifth and sixth classes, and spelling included as "letter-writing" for these classes.

Arithmetic—The programme in this subject could

be made less extensive than it is at present, thereby requiring a shorter time each week to be given to it in the case, at least, of the higher classes. Pupils who have learned all the different rules up to and including simple interest are acquainted with all that is likely to be of any practical use to them.

Geography.—The sixth class programme in this subject might be considerably shortened.

McELWAIN, A. J., M.A., Carrickfergus.

(a) Grammar should be made optional in all schools. The subject as taught does not make our pupils correct speakers or correct writers, nor is it of any service as a mental training.

(b) That geography should be made wholly optional is not perhaps quite so advisable. A limited geography programme extending over two, or at the outside three years, instead of six years as at present, is *revelé* to be recommended. The programme should include a knowledge of the elements of mathematical and physical geography. This subject could be begun in third class, and ended in the lower division of fifth.

Our primary schools might be satisfied with a less ambitious course of arithmetic. The programme embraced by the higher division of sixth class, is an extensive one. Ninety-nine per cent. of the pupils attending our schools do not require more arithmetic than is needed for commercial life. What is required is aptness and accuracy in working the more common rules, and skill in mental calculations; the present results system fails to secure this. In all probability, quickness, accuracy, and mental arithmetic were more cultivated in the pre-results period. Arithmetic is regarded as the most important subject in the school curriculum, and more time is given to it than to any other subject. To pursue this line of observation, however, would simply be to discuss the great question of the revision of the results programme and of the results system; a revision which is imperatively required in the educational interests of the country. Our programme is showy, not sound, and it would be better if less were attempted, and thoroughly done.

Geography and arithmetic, therefore, might be made optional in some classes in which they are now compulsory.

(c) The proficiency in the various subjects is too low, speaking generally, to allow a shorter time to be given to any subject.

Mr. McElwain adds:—No scheme for manual and practical instruction in our schools can, I believe, be made compulsory. The industrial programme for sixth class girls is not popular, and in my experience the number of schools adopting it is diminishing.

It has been adopted in a great minority of the schools in the district of which I have charge, and of the few which adopted it, several have either given it up or are applying for exemption from it. Very great opposition would be offered to a compulsory introduction of manual and practical instruction, if this inflicted much injury on the literary programme.

Very few of our teachers would be competent to give instruction in a programme of the kind. Many of our mixed schools, too, are under female teachers. This class of subjects could best be taught in towns, or where a number of schools lay round a common centre, by visiting teachers with a practical knowledge of their subjects. The State would have, if not wholly to provide, at least to assist in providing, the necessary apparatus and material.

The attitude of the teachers would, as a rule, be determined by the answers to the two questions (i.) which programme (old or new) is the more profitable for the teacher, and (ii.) which is the easier, involving less labour.

In connection with the teaching of agriculture, I have long been of opinion that the theoretical or book-teaching given has no effect on the practical agriculture of the country, and that the key to improved agriculture in all its branches will be found in a more efficient system of education, with its necessary effect on the intelligence of the country and its industrial habits.

It is doubtful whether a practical subject can be taught to any appreciable extent by book. I am sceptical even as to whether there is any marked gain from school farms and school gardens.

If the question has not already been raised, I take the liberty of drawing the attention of the Commissioners to the fact that there have been for years a number of school farms in different parts of the country, under the charge of, and inspected by, an agricultural inspector, and that it would fall within the range of the Commissioners' inquiry to see what effect these school farms have had on the system of agriculture pursued in their respective localities, whether or not they have proved centres of light and influence.

In conclusion, I beg to express the opinion that a

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through re-organization of the system of elementary education in Ireland is required, before any large and comprehensive scheme of manual and practical instruction can be introduced into our National schools.

The comparative failure of the results system and the fundamental changes required are too large a question for me to enter on, though I believe that they are closely connected with the subject of the Commissioners' inquiry.

M'ENERY, D. T., M.A., Athy.

(a) None of the obligatory subjects of the National Board's present programme could be made optional in all classes without serious disadvantage to the best interests of primary education in this country.

The educational value of grammar and geography is scarcely inferior to that of the other obligatory subjects.

(b) When, however, a boy has passed through fifth class, second stage, he should have learned quite enough of formal grammar for all practical purposes. The mathematical and physical portions of geography also possess much educational value; but for the average worker or mechanic a minute knowledge of his own country, and a fair acquaintance with the general geography of the world, the important trading centres, and the commercial products of the various countries, especially those of the British Colonies, should suffice. All this knowledge could be acquired by the time a pupil passes into sixth class by merely substituting in the programme for fifth class, second stage, a general knowledge of the British Colonies for that of the Maps of the Continents, which should have been known well enough in the third and fourth classes. By these modifications most of the time now spent by the sixth class on grammar and geography would be available for other subjects of more practical value.

(c) From a careful comparison of the time tables followed in ten of the most successful and best organized schools in this district (Athy), the average weekly time given to the various obligatory subjects is found to be as follows:—

3½	hours to reading and explanation.
2½	" handwriting.
5	" arithmetic.
2	" spelling.
2	" grammar.
2	" agriculture (theory).
1½	" geography.

Taking twenty hours a week as the minimum time for secular instruction, the above time table allows one hour and twenty minutes (or sixteen minutes daily) for the hearing of home lessons. Now, in most well-taught schools the morning attendance is found to be sufficiently punctual to admit of the home lessons being heard before the commencement of the regular business of the day. Accordingly the settling apart of sixteen minutes for this purpose during school hours should meet the requirements of the vast majority of schools. An examination of the foregoing time table shows that five hours weekly (or two daily lessons, each of half an hour's duration) are given to arithmetic. This time might be somewhat curtailed without any appreciable interference with due progress in arithmetic by substituting drawing or some other branch of more practical utility for the second half hour's lesson in this subject on two days

each week. In addition to this for sixth class, elementary measurement, such as a practical knowledge of linear, superficial and solid measurements might with advantage be substituted for the working of abstract problems at one of the arithmetical lessons each week.

Again, five half hours are devoted weekly to local writing, including composition, two of which might be more profitably spent at book-keeping, at least by sixth class pupils, for it is to be presumed that by the time a pupil has passed through the second stage of fifth class, his penmanship should be fairly good, so that working at book-keeping instead, during a portion of the time, need not interfere with his progress in writing.

Two hours a week at agriculture, as per time table, are apparently deemed to be ample time for making due progress in the theory of that subject. It is to be regretted, however, that school plots for the purpose of practical demonstration or improved systems of horticulture, &c., are not available for all country schools under such conditions. Practical work in such plots, say, for two half hours a week, would tend to develop the powers of thinking and self-reliance, as well as counteract the present vicious habit of committing to memory the prescribed portions of the text-book. The subject to be of real practical use should be more intelligently taught. All male teachers should be obliged to undergo a course of practical instruction at the Albert Institution, Glencree.

This subject should be optional in all town schools, and handicraft or elementary science substituted therefore.

It would involve no great hardship to oblige the senior classes to remain at secular instruction four and a half hours a day on five days of the week, and two hours on Saturdays. For the junior classes, three hours secular instruction daily is ample time. The time thus added, viz., four and a half hours weekly would be very considerable, and could be profitably spent at drawing, elementary science, or manual training. These subjects, if taught during the latter part of the day, would afford an agreeable relief from mental strain. To enable the teacher, however, to give due attention to the practical as well as literary training of the senior classes, the lower classes might be dismissed at the end of three consecutive hours' instruction, say, at one o'clock each day.

The above modifications would admit of five and a half hours being devoted weekly to drawing, or other useful manual training, in third, fourth, and fifth classes. In the sixth classes, with grammar and geography made optional, more than eight hours, and in the case of town schools, agriculture being an optional subject, more than ten hours a week, would be available for instruction in drawing, elementary science, handicraft, &c.

M'GLADE, P., Donegal.

The obligatory portion of the programme is too wide and varied for a number of schools. Some of its requirements, too, are of very questionable utility, and changes which would be the means of giving it a more utilitarian tendency are urgently needed.

Reading.—Repetition of poetry might well be omitted from the requirements of reading and made an optional subject.

Writing.—Too much time—usually ten half hours a week—is given to the subject. If the lessons were

properly superintended, five half hours per week would be sufficient to give to copy-writing; two half hours in the same period might be given to transcribing from books, and the remaining three half hours could be spent at elementary drawing.

The senior division very generally spend the "writing lesson" at written penning and geography exercises. Instead of these drawing could be introduced on two or three days of the week.

Arithmetic.—The programme in this subject could be considerably reduced. Most of "the higher rules" at present required are comparatively useless. The reasons too, of the processes involved are very seldom explained to the pupils. One and a half hours daily are not uncommonly given to arithmetic. Three quarters of an hour daily would be sufficient.

The use of text-books in teaching this branch should be strictly prohibited except on certain days set apart for "repetition" or "examination." A similar express prohibition should be directed against the use of catechisms, "crans" sheets, &c., so often substituted for the ordinary text-books. They are destructive of intelligent teaching and should not be tolerated except on "recapitulation" or "examination" days.

Spelling.—Spelling could not be dispensed with as a separate subject.

Grammar.—Formal grammar should be optional. Practice in correcting sentences containing the more common grammatical errors, and composition exercises would be far more useful, as being more effective in securing the chief object of grammar.

Geography.—The programme should be curtailed or a useful course of commercial geography substituted. The latter should be a compulsory subject.

Needlework.—The time given—one hour daily—is rather liberal for the junior girls, those of second and third classes, who have to prepare so limited a programme. Half an hour daily would be sufficient for this subject in these classes, and even in fourth class.

Agriculture.—This subject might be made optional. From an intelligent knowledge of the principles of agriculture, obtained even from books, the pupils would derive much benefit, but in the National schools rote work takes the place of intelligent teaching in the subject.

Extension of the school hours in rural districts appears to be out of the question. At present many of the children are continuously absent from home for six or six and a half hours, and must for so long be without any substantial meal. Needless to say, this arrangement is very trying on children. It is a chief cause of the irregularity of attendance.

M'MANON, J., Mullingar.

(a) Geography should be made an optional subject, as the time spent at this subject is very seldom of the smallest practical advantage to the pupils in after life.

(c) The time for passing in reading and grammar should be a made single fix, given on satisfactory reading, explanation, and parsing—this change to take place from the fourth class onwards. It is scarcely necessary to point out the very obvious advantages gained by this change. The half hour given every day

to reading would resolve itself into a combined lesson on correct reading, intelligent grasping of the meaning of the passage read, and grammatical connection between the various words and clauses in the passage. This would lead the pupils to acquire the power of reading in its highest signification, viz., acquisition of knowledge. The time spent at the daily lesson or bi-weekly lesson in grammar would be saved for some useful work.

M'NEILL, J., R.A., Omagh.

(a) Grammar might be advantageously omitted from the present results programme. This subject leads to nothing. Five or six years spent in the study of it bring no accuracy in either speech or written composition. In case of the highest class a little elementary analysis might take its place.

(c) Less time might be given to arithmetic than is the case at present: the programme should be curtailed, and the examination made easier. It is of doubtful utility to teach pupils to solve complicated "squares"

in fractions, stocks, and shares, &c.—squares which do not in the smallest degree resemble anything likely to be met with in practical life. Some mental training, in no doubt, secured, but this might be done just as well by "mental arithmetic." The practice of the latter would be, obviously, more useful in daily life.

Extension of grammar and curtailment of programme in arithmetic are the measures to be recommended.

MAHON, J. S., M.A.

(a) Grammar, geography, and agriculture are the only subjects, the elimination of which can be contemplated.

Grammar as a means of producing correct speaking and writing is of little use. Children learn to speak as they hear people around them speak, and no amount of school training will counteract the effects in this respect of their surroundings, correctness in writing can be acquired only by constant practice, and it is in connection with composition that grammar to be useful must be taught. But as an intellectual training, grammar when properly taught, is invaluable, and it is the only purely intellectual subject in the Board's programme. It would not therefore be well to eliminate it.

Geography should be retained with modifications. Agriculture, being a science, can only be effectively taught as a science. No science can be effectively taught without adequate means of familiarising the pupils with the things of which it treats. Now the pupils who learn agriculture only theoretically never connect the matter of their studies with what they see in the fields, and when they afterwards come to engage in practical work on the farm they cannot

put into practice the principles they have learned, but continue to pursue the methods which they have acquired from their fathers.

It appears, therefore, that no disadvantage would result if agriculture were abolished as an obligatory subject in National schools, and the time now devoted to it were otherwise usefully employed.

An exception must be made in those cases where facilities are provided by means of school gardens or farms for giving practical instruction, and in such cases a plot, no matter how small, should be assigned to each pupil, for the cultivation of which he would be wholly responsible.

(b and c) Grammar.—The valuable portion of it would be retained, and more time left available for other branches by the introduction of the following changes:—

Children should not begin grammar till they have entered fourth class, the programme for which should be identical with that now prescribed for third class. The present requirements for fourth class should be spread over the two stages of fifth class, and syntactical parsing might be postponed till the pupils have entered sixth class.

Geography.—It is important that children should get some idea of the world in which they live, of their own country and of the empire of which it forms part. Instruction in geography should include information as to the natural features, distribution of animals, and the people, their habits, occupations, etc. This is to some extent included in our reading books,

but should be given in connection with geography. In addition, only important matters should be insisted on, and not a multitude of insignificant details. Were these modifications introduced, our present programme could not be restricted without producing injurious effects.

MORRIS, A. P., B.A., Tipperary.

The National Board's present programme could be modified with advantage (a) by making grammar optional in all classes, (b) by making geography optional in fifth and sixth classes.

[Mr. Morgan refers to his report on the state of education in Waterford district in the Appendix to the Report of the Commissioners of National Education in Ireland for 1895.]

MURPHY, J. J., Armagh.

(A.) Geography cannot be dispensed with in third or in fourth class, but after fourth class it might be made optional in alternate years, provided a suitable geographical reader was used in the classes not taking it up as a grant subject. A geographical reader treating of the British Isles and Colonies and their principal industrial and commercial centres should be compulsory for one stage of fifth class.

(c.) Improved or simplified text-books and increased attention to blank map exercises would effect a large saving of the time now devoted to geography.

Grammar.—The time devoted to this subject might be much curtailed by devising a short and essentially practical text-book, framed strictly on the lines of a help

to correct speaking and writing, and requiring this book to be used in fourth and higher classes, irrespective of the grant subject of grammar, and also by a strict insistence (for the purpose of examination grants) on the avoidance of gross grammatical errors. Subject to these conditions, grammar as a principal subject, might be omitted for first stage of fifth and first year of sixth. The study of grammar (as a science), parsing, analysis, etc., might almost be put off to sixth class. Arithmetic.—Teachers have to give too much time to the programme. It should be simplified and more importance attached to rapid and accurate work. The higher arithmetic should be reserved as a section of the entire subject of mathematics.

NEWELL, P., Ballaghaderreen.

(a.) Grammar might, without disadvantage, be made optional in National schools. At present it is taught as usually to be ineffective either as mental training or as an aid to correct writing and speaking. The time devoted to it, as a rule, is only two or three half hours a week, but it would be better if the time so employed were given to reading, explanation and poetry, and to teaching the pupils to avoid common grammatical errors.

(b.) Though it is not desirable to do so, geography might possibly be made optional in a few of the higher classes.

(c.) In the higher classes a considerable amount of time is needlessly expended in copying headlines and in spelling from dictation.

Some of the time thus spent could be spared for other branches, without any detriment to writing or spelling.

It would be undesirable to reduce the half hour or so a day usually allowed for agriculture. This is a most important subject, particularly for an agricultural country like Ireland.

It would be well to have it better taught, and if necessary even more time allowed for it.

O'CONNELL, J. A., M.A., Magherafelt.

(a.) Needlework.—The alternative scheme for sixth class girls to be optional in all schools.

Grammar and Geography to be deferred to the fourth class in all schools, and they might be left optional in schools where the Manager wished to substitute some other branch for them, such as drawing, elementary science, etc.

Agriculture.—Education would not suffer if the Commissioners of National Education declined to pay results fees for instruction in this branch in schools in large towns.

In rural districts agriculture is of vital importance and should receive more encouragement in the National schools than at present. With security of tenure in the land, and energy and industry on the part of the

farmers, much benefit should result from encouragement of agricultural instruction. But at present the teachers as a rule have no knowledge of farming, and they should go through a course of practical training. The fact that the pupils leave school and come to learn agriculture at an early age, prevents the instruction from being so useful as it might be. It is hard to expect a man to take lessons in farming from his ten year old boy who is reading about crops, and the boy has forgotten much of the instruction when he becomes a farmer himself. In order to reach the farming population it might be worth while to encourage evening continuation classes in agriculture for young men, between the ages of, say, eighteen and thirty-five years, in connection with approved school farms.

O'BRIEN, J., B.A., Clonmel.

(a.) None of the subjects should be made optional in all classes.

(b.) Grammar and geography might be made optional in fifth and sixth classes.

(c.) None of the compulsory subjects could, generally speaking, be satisfactorily taught in less time each week than that now given.

PELLOW, WILLIAM, B.A., Belfast South.

APPENDIX C

(a) Grammar and geography might be made optional in National schools without seriously interfering with their efficiency. In medium schools grammar is generally worthless, and in good schools where it optional it would still be taught.

Geography might also be made optional and the programme changed so that a general knowledge only might be expected. There is no fault to be found with the third class programme in this subject, which is general, or with the fourth class programme, which requires a useful knowledge of Ireland; but the programme for senior classes is much too detailed, and the time spent at it might be reduced by at least one half without in any way interfering with education.

The time of teachers is greatly taken up with arithmetic, whereas a part of it could be better spent at reading, writing, spelling, and other occupations. The programme in this subject is too difficult, particularly in the second stage of sixth class. The standard should be lowered, but more importance should be attached to mental calculations and mensurable work. In case the programme in arithmetic were reduced, the time given to it could be curtailed.

Mr. Pellow adds—The results programme as at present drawn out requires the entire school day of the teaching staff, but this programme could be modified without exacting such a continuous strain as is now necessary. As regards the pupils the difficulty is not, I think, one in which time is the main consideration. As a rule the child of a given age is unable to receive literary instruction beyond a certain limit, and

although intellects vary much, the school with a large number of extras has usually a large number of subjects neglected, simply because both the memory and thinking powers become exhausted. Manual instruction and, generally, practical work require little brain effort and come as a relief. But the time of the teacher during ordinary school hours, even were he of a thoroughly practical turn of mind, can with difficulty be spared. He could not, I fear, leave his school for any length of time to give manual instruction without interfering with the literary programme; whereas I have no doubt a number of the senior children could.

In Belfast most of the schools are so arranged as to have a large infant department and a large senior department. As regards time, I think it important to point out that although girls spend an hour daily at needlework, in the literary subjects there is no discernible difference between the progress they make and that of the boys. In many of the infant schools of my district (Belfast South) kindergarten occupations are taught daily, and occupy as a rule three hours weekly. I remember the infant schools in which kindergarten has been introduced much superior to the others.

I might venture to suggest that in congested localities teachers with technical skill would be beneficial. In case a few were employed in such districts as Belfast, who went from school to school and gave instruction in manual occupations only, I believe in the course of time their work would be appreciated and encouraged.

ROGERS, J. C., B.A., Ballinaboy.

While the National Board's programme of compulsory subjects might, without serious disadvantage, be modified, it would be very undesirable to render any of these optional.

The modifications suggested are—

1. A simplification of the programme in arithmetic,

in the senior classes, so that the inordinate time now devoted to teaching the subject could be curtailed.

2. Such a simplification and re-arrangement of the programme in grammar as would require the subject to be taught for the first time to the pupils in that stage of fifth, and not to those in third class.

ROSS, J., M.A., Newry.

(a.) Grammar might with advantage be made optional in all National schools, and the present requirements in this branch might be lessened by omitting it from third class, what is now required from third class being made the standard for fourth, and so on through the remaining classes.

(c.) The time given to geography might, without serious disadvantage, be somewhat curtailed, and the programme in political geography for sixth class might be less extensive than at present.

Two other possible methods suggest themselves for saving time for manual and practical instruction.

1. By withholding an hour or two hours on Saturday for such instruction.

2. By providing a shorter school day for the junior children, and, except during three months of winter, a somewhat longer day for the seniors. Wherever

it was found safely practicable for the infants and first class pupils to go home unaccompanied by older children, the school day for these younger pupils should not exceed three hours. This of course applies only to ordinary National schools without infant departments.

The character of the instruction in National schools could in one important respect be gradually improved, if arrangements were made for the attendance of selected teachers for short sessions—say, of two or three weeks each—at such an institution as the Royal College of Science, where the professors would give lectures on natural philosophy largely illustrated by experiment, and where special attention would be given by the teachers attending such lectures to the practical work of making simple apparatus suitable for experimental teaching of science to the pupils of their schools.

SEMPLE, J., B.A., Ballina.

(a.) Grammar to be made optional.
(b.) Grammar to be omitted from the programme for third class.

(c.) The programme in arithmetic in fourth and higher classes to be curtailed, and a shorter time given to it in each week than is now given.

SHANNON, P., Kilkenny.

APPENDIX C

(b.) Grammar, geography, and agriculture might be made optional in third, fourth, and fifth classes. Geography might be made optional in sixth class as well.

(c.) If the above subjects still remain compulsory, the content of time now devoted to them cannot be shortened.

Nothing will be gained by making these subjects, agriculture perhaps excepted, optional, for teachers will still present their pupils in them. To allow more time for other subjects during school hours, they

should be removed from the programme altogether, and this would be an advantage in the case of third, fourth, and first stage of fifth class.

Part of the time thus saved could be devoted to effect a very necessary improvement in reading. Were the children taught to read ordinary books with intelligence and profit to themselves during school, they would be enabled to acquire useful information from text-books on agriculture or on other subjects of importance to themselves, after leaving school.

SKEFFINGTON, J. B., M.A., LL.D., Waterford.

I.—COMPULSORY SUBJECTS

Reading and Recitation.—Recitation of a set amount of poetry need not be compulsory, and, where singing is taught, may be omitted. But pupils should read the poetry in their books as well as the prose.

Spelling and Writing.—Examination in oral spelling should be entirely abolished, except as to infants who cannot write. In place of oral spelling, the writing test should consist of transcription. In the third and fourth classes transcription or dictation might be used as a test in writing and spelling combined; while in the fifth and sixth classes composition of a given length should serve the same purpose. In short, spelling and writing should be only one subject, the test being really to write the language.

Notation and Tables should not be separate heads of arithmetic, but involved in the same. Some mental calculations and explanation of the processes should be required. Tables or mental counting should begin in infant class.

Grammar may well be optional in third and fourth classes, in which the terms are seldom understood.

If grammar be taught in these classes it should be with few and simple terms, as nouns, verbs, qualifying words, &c. The use of such words may be easily taught practically in plain sentences and by forming sentences. All this could be done in a few lessons of the ordinary reading books, special grammar books not being needed.

Even where grammar is optional, the examination should be by class, not by individual.

In the fifth and sixth classes grammar should be taught.

The amount of time wasted on mere word parsing and written parsing exercises should be much lessened; while correction of errors, formation of sentences, correct expression in composition, analysis of sentences, simple and complex, are practically useful applications of grammar, also the effect of prefixes and affixes and the most fertile roots; so, too, transposition and supplying ellipses in poetry.

Geography may be optional in third and fourth classes, and if taken should be examined on by classes, not individually, and chiefly with reference to maps and interesting facts.

The knowledge required can be supplied by a few lessons in the class reading books, to be explained on the maps.

In fifth and sixth classes this subject should be taught, but still only a class examination should be required. Disconnected facts, figures, and numbers should not be exacted.

Agriculture should be optional in all town schools. It should be always optional in fourth class, and the subject should be examined by class, not individually.

II.—ECONOMY OF TIME

The changes suggested above would involve a considerable saving of time, and with more regular attendance and an earlier roll call, the nominal hours would be more effective.

Time is now practically wasted in various ways owing to defects of programme specified above, and through errors of method and from want of skill in teachers, &c.

Writing, Slate and Paper.—There is great loss of time and energy in the change from slate to paper writing. There is also much loss of time and waste of paper in writing so many more copies, as well as in copying the head lines so often. Not more than three times should the head-line be copied.

In dictation much time is lost; far more is done by transcription, once a week being enough for dictation.

Arithmetic.—In working sums at desks there is often much more waste of time.

Needlework.—In the second and third classes an hour a day is too much for needlework.

In the fifth and sixth classes practical cookery might alternate with needlework, and especially where the industrial scheme is taken up.

Amalgamation of classes in small schools would save much time now frittered away among miniature classes; thus, the first and second classes could work together, &c.

The great point must not be overlooked that the reading books can and ought to be used as a basis for the instruction in some school subjects, as in geography, &c.

In towns there might be an extension of time, say, 9.30 to 12.30 and 2 to 4, giving five hours with an interlude of one and a half hours, at least in all but mid winter months. An hour would thus be gained for practical work.

Also, Saturday, or part of it, seems available for the same purpose.

Suggested Time Table, showing the number of half hours per week available for different subjects, even under the present four hour day system:—

Subjects	Infants, 1st, 2nd and 3rd Classes	Middle, 4th and 5th Classes	Senior, 6th and 7th Classes
Reading and Recitation, &c.	10	10	8
Writing and Spelling, &c.	8	5	8
Arithmetic, &c.	5	5	5
Geography, History, and General	5	8	8
Needlework for Girls.	5	5	8
Practical Work for Boys, &c.	—	—	8
Apprentice, or Book-keeping, or Miscellaneous, for Boys, Needlework or Cookery, &c., for Girls	—	—	8
	40	40	40

Note.—The figures denote half hours per week; 5 days of 4 hours each=20 hours=40 half hours.

STEEDS, J., LL.D., Dundalk.

Mr. Steeds recommends the establishment of handicraft and technical schools, as distinct from the ordinary National schools, at convenient centres, it being very doubtful that handicraft could be usefully introduced into ordinary National schools during school hours.

Boys and girls of 14 and 15 years of age respectively should attend these schools, the boys having passed through second, and the girls through first, stage of fifth class in the ordinary National schools. Pupils who intend following literary pursuits, or who are unable to attend such schools, should be allowed to continue at the primary school.

Materials, tools, &c., should be provided free in these schools.

Mr. Steeds submits the following suggestions as to the present programme in National schools.—

First Class.—Knitting with two needles to be taught to first class pupils and infants of seven years of age.

Second Class.—Reading with intelligence to be insisted on from this class onwards. Defects in this matter to entail special penal consequences, pecuniary or otherwise. Correct method of using needles and thimbles to be essential for a pass in needlework.

Third Class.—The remarks as to second class apply to this class also.

Fourth Class.—The writing to be judged from the dictation exercise.

Fifth Class, First Stage.—The letter alone to be the test for writing; this letter should be correct in form and spelling, have no bad errors in grammar, and be legibly and neatly written. Book-keeping to be compulsory.

Fifth Class, Second Stage.—Letter-writing to include writing, spelling, and grammar; the letter to fill one side of a single sheet of foolscap paper.

Book-keeping to be compulsory.

Sixth Class.—The reading book to be abolished. For girls, the girl's reading book, and books on domestic economy and other useful matters to be adopted. For boys, popular books on natural or physical science, interspersed with other useful matters of a lighter kind. For girls in this class four hours weekly appear to be sufficient for plain needlework and cutting out of a shirt, one hour a week might be given to the most popular of the industrial branches—viz., crochet and knitting, and the remaining hours might be given to any fancy or other useful industrial work that the teacher or pupil may wish.

Writing, spelling, and grammar, might be united under the head of composition.

Freehand drawing should be taught in every National school. Facilities might be afforded to teachers to get lectures in the best method of teaching this branch. With suitable examples and a good method of teaching it, this subject might be taught by teachers who do not possess a certificate; a certain proportion of passes in a class to permit any fee for the subject.

Geography, and agriculture in country schools, with revised text books and large coloured illustrations hung on the walls, to be continued as before.

Specimens of pieces of needlework, as samples of what would be required from each class for the results fee, to be supplied both to inspectors and teachers.

The proportion of results fees to fixed salaries should be greater in the case of first-class teachers than at present, as many of those teachers appear to be satisfied with a far less amount of results fees than they could easily acquire by proper attention to their school duties.

THIES, J. H., B.A., Lisgowal.

(a) Grammar might be made entirely optional. Agriculture might either be made optional or have less time devoted to it—the course being so modified that instruction should be confined to broad principles only—except in schools which have farms or gardens attached.

Geography might be optional in both stages of fifth and in sixth class.

Arithmetic.—The more difficult rules now required in the higher classes might be made optional.

Mr. Tibbels.—Instruction in drawing should be compulsory, and should begin in the most junior classes, so that pupils on reaching the fifth class might have had the advantage of a complete training in drawing to help them in entering upon any technical subject.

WARNER, J. M'K., B.A., Sligo.

The following observations refer mainly to the ordinary schools throughout the country or in villages, and as to time they refer mainly to the pupils' time.

(a) Regarding geography, the ordinary country school has to meet all the educational needs of its locality, and to abolish this subject might seriously inconvenience some of those in that locality.

As to agriculture, it would be very desirable that the instruction in it should be of a more practical character, but until a more practical scheme has been devised it is safer to retain the subject as obligatory.

(c) Only one subject—needlework—has a time limit (one hour per day minimum) prescribed by the rules. This time might be reduced. A common staff is a male principal and a workwoman, the latter taking no part in the literary work and attending two hours daily, generally divided into one hour for juniors and one for seniors, she teaches six different classes. This amount of time divided into, say, four

parts, taking only about half an hour for each class, ought to effect as much or more, as each individual, while getting adequate practice, would probably receive a larger share of attention. The needlework programme for classes 2 and 3 could be taught in one year, leaving two years for the full programme in the subject, that full course being by practice kept up, with a reduced weekly time, as a subject necessary to qualify for fees in other subjects, in the higher classes.

A maximum and minimum time might be prescribed for other subjects.

The programme for grammar and geography might be taught in a shorter time.

The time given to arithmetic is generally excessive.

Time might thus be saved, so that, while keeping up former subjects, pupils in the higher classes might have time available for new, and in junior classes there would be no difficulty in providing time for, say, obligatory drawing.

WELSH, W. H., B.A., Galway.

APPENDIX C.

In this district, out of the forty or forty-five half hours per week devoted to secular instruction in the schools, the general rule is to devote three half hours to grammar and two to geography, or vice versa.

This is so inconsiderable an item that any diminution of it is not to be recommended, nor could the time allotted to the other important branches be lessened.

Grammar might be abolished in third class and begun in fourth.

Mr. Welsh adds—The introduction of any new subjects into the programme of instruction of pupils would best be made by extension of the ordinary school day, or by the utilization of Saturday.

WOOLEY, H., M.A., Ballinasloe.

(a) As the object of teaching grammar is to get pupils to speak and write correctly, it might without serious loss be made optional on condition that a good standard of composition (letter-writing) was firmly insisted on.

(b) Geography could not so easily be dispensed with or made optional. It is in itself a highly useful branch of knowledge. It may be remarked incidentally that a knowledge of the industrial capacities of Ireland is a very important preliminary in any scheme for the extension of technical instruction in this country.

The arithmetic for sixth class, second year, might be simplified.

Mr. Wooley is of opinion that, while the literary standard prescribed by the results programme should be within the reach of the less clever pupils of our National schools, it should at the same time afford room and scope for the development of the intellects of the more gifted ones, and that without encroaching on the province of secondary education, primary education should be made a fairly easy stepping-stone to the latter. This should be kept in view in any attempt to remodel our literary programme.

WYSE, A. N. BONAPARTE

(a) None of the compulsory subjects to be made optional, except perhaps in the case of some schools in outlying districts, where the teaching staff is scarcely competent to give instruction in all the compulsory subjects.

(b) Grammar and geography might be omitted in third and commenced only in fourth class.

(c) The third class would then be able to devote a substantial portion of the school day to drawing and any course of manual instruction that might be desired.

Arithmetic.—In nearly every school, in the classes

from fourth inclusive upwards, at least an hour a day is given to arithmetic. This is required by the extreme length and difficulty of the course in the higher classes. It would be well to lessen the programme, and time would thus be saved.

The daily hour for needlework should not be interfered with.

In the higher classes, more school time can be obtained only by shortening the programme; in the classes up to second inclusive, the school time is not fully occupied by the present course.

YATES, G.

(a) In third and fourth classes, grammar might be made optional, without serious disadvantage, and also the character of geographical teaching might be altered.

Grammar.—A large number of children never get beyond fourth class and these have not advanced far enough in grammar to derive any benefit from it.

It will still be taught, even though made optional, if the teacher be capable.

It does not seem to have much effect in teaching children to speak and write correctly.

Geography.—It tends to degenerate into a mere exercise of memory. Geography would, however, be most useful in the form of object lessons, of which the first subject would be the surroundings of the school, and the representation of them on a map.

(c) In the junior classes there is ample time for practical instruction according to the present programme.

In all classes one hour a day is at present devoted by girls to practical work, hence the same time could be devoted to similar work by boys. Also in many schools one or two hours weekly are devoted to drawing (which would probably form part of any scheme for practical instruction).

In classes five and six, the present course in arithmetic and in reading might be modified so that a shorter time might be given to them than at present.

These remarks refer chiefly to the time of the pupils.

APPENDIX D.

FRENCH SCHEME

FOR

THE TEACHING OF ELEMENTARY IDEAS OF AGRICULTURE IN RURAL SCHOOLS.

[Note by Secretary.—The Commission is indebted to the courtesy of the French Government for permission to publish the following translation of a publication issued by the Ministère de l'Instruction Publique et des Beaux-Arts, and entitled "Enseignement des Notions Élémentaires d'Agriculture dans les Écoles Rurales."]

For a more exhaustive treatment of the matters dealt with in this scheme, reference may be made to the following work:—"*L'Enseignement d'Agric., dans les Écoles du Second Degré Primaire (Garde), par René Lefebvre, Directeur général de l'Instruction publique. Paris: Librairie Larousse.*"

OUTLINE OF THE COURSE.

Official circulars of November 24 and 30, 1893, foreshadowed the preparation of a scheme of APPENDIX D.
school courses, broadly outlined in the form of a practical guide, and intended to lighten the task of the teachers in giving instruction, which is now compulsory,* in "elementary ideas of agriculture."

Such a scheme is here formulated, it is obviously no more than a general indication, but teachers will find that it contains essential directions, and with these they should comply, while adapting them to the capabilities of their pupils and to the circumstances of the locality in which their schools are situated.

DIRECTIONS TO TEACHERS.

Instruction in the elementary principles of agriculture, such as can be properly included in the programme of primary schools, ought to be addressed less to the memory than to the intelligence of the children. It should be based on observation of the every day facts of rural life, and on a system of simple experiments appropriate to the resources of the school, and calculated to bring out clearly the fundamental scientific principles underlying the most important agricultural operations. Above all, the pupils of a rural school should be taught the reasons for these operations, and the explanation of the phenomena which accompany them, but not the details of methods of execution, still less a résumé of maxims, definitions or agricultural precepts. To know the essential conditions of the growth of cultivated plants, to understand the reasons for the work of ordinary cultivation, and for the rules of health for man and domestic animals—such are matters which should first be taught to every one who is to live by tilling the soil, and this can be done only by the experimental method.

The master whose teaching of agriculture consists only in making the pupils study and repeat an agricultural manual, is on the wrong path, however well designed the manual may be. It is necessary to rely on very simple experiments, and especially on observation.

As a matter of fact, it is only by putting before the children's eyes the phenomena to be observed, that they can be taught to observe, and that the principles which underlie the science of modern agriculture, can be instilled into their minds. It should be remembered that this can be done for the rural agriculturist only at school, where it will never be necessary to teach him the details which his father knows better than the teacher, and which he will be certain to learn from his own practical experience.

The work of the elementary school should be confined to preparing the child for an intelligent apprenticeship to the trade by which he is to live, to giving him a taste for his future occupation: with this in view, the teacher should never forget that the best way to make a workman like his work, is to make him understand it.

To sum up: The aim of elementary instruction in agriculture, is to initiate the bulk of our country children into that degree of elementary knowledge which is necessary to enable them to read a modern book on agriculture with profit, or to derive advantage from attending an agricultural conference, to inspire them with the love of country life, so that they may prefer it to that of towns and factories, and to convince them of the fact that agriculture, besides being the most independent of all means of livelihood, is also more remunerative than many other occupations, to those who practise it with industry, intelligence, and enlightenment.

* Law of June 16, 1879 (Art. 67) and Law of March 28, 1882 (Art. 1.)

APPENDIX D.

DISTRIBUTION OF TIME

It would be difficult to attain the end so indicated, were the time for agriculture strictly limited to that which is set apart for it in the regulations; that is, if the instruction given in other subjects were allowed to remain unconnected with the preparation of the child for the life which awaits him on his leaving school. In rural districts especially, the teacher should direct the whole of his instruction towards the daily wants and circumstances of the neighbourhood, by often giving an agricultural tinge to reading lessons, language lessons, arithmetical exercises, etc. Poems of country life, ordinary rural occurrences, problems in simple form dealing with the price of produce bought or sold in the district, or with the mixtures prepared for the feeding of stock, etc.—such matters will often be of great assistance to the regular instruction in agriculture. We shall now proceed to indicate how this instruction should be proportioned to the weekly work of the school.

The Organic Regulations* give the general conditions with which the arrangement of the various subjects in the primary school should comply. The time allotted for the "physical and natural sciences (with their applications), which are to be taught at first by means of object lessons, and subsequently studied systematically," is on an average, and according to the courses, two or three hours a week.

The regulation does not distinguish between the physical and natural sciences on the one hand, and agriculture on the other; and does not contemplate the setting aside of one hour in each week, for example, for the sciences, and making use of the remainder for agriculture. In distributing the matter comprised in the double programme attached to the Organic Decree, the facilities afforded by the seasons and climate for carrying out demonstrations, should be taken into account. The principle is, that everything that relates to the life and growth of plants (gardens and field operations, school walks, etc.) should be reserved for Spring and Summer, that is, placed on the school programme for the second half year: the remainder should be placed on the programme for the first half year.

The scheme given further on, fulfils this condition, whilst maintaining a logical and systematic connection. If a teacher is able to impart elementary scientific ideas well, and then to make use of the ideas so imparted as the starting point or foundation for those of agriculture or horticulture and for the first principles of hygiene, then the two or three hours allotted per week will be sufficient for the rational carrying out of the programme, provided that these "ideas" be not expanded beyond the limits of the pupils' understanding.

NOTE ON THE OFFICIAL PROGRAMME.

Most of the Departmental Councils in accordance with requirements of the law†, have drawn up programmes of agricultural instruction specially suited to each Department. In almost every case these programmes have been marred by exaggeration.

We must try to acquire a truer apprehension of the nature of primary education, which—and this cannot be too often repeated—can never be made to include a regular professional training. All that is asked of the rural teacher, is that he should give to his pupils in the degree suitable to their age, an intelligent taste for agricultural matters. He will succeed in doing this without overloading the general programme, by connecting his scientific with his agricultural teaching. Both together should form a well connected and well balanced whole, in which the elementary ideas of the physical and natural sciences, those of agriculture and of hygiene, and in the case of girls, those of domestic economy, mutually support and complete each other.

What follows is an indication on these lines, in the case of each of the three courses (elementary, middle, and senior), of the nature of the lessons admissible in carrying out the official programme, during each half year in rural schools. The whole forms as it were a frame work, which will be found to contain all that can reasonably be expected of a good average pupil who has gone through the entire course.

ELEMENTARY COURSE

(Seven to nine years of age).

The object lessons of this course are a continuation of those laid down for the Infant class and for the Infant School (*École Maternelle*).‡ As far as agriculture is concerned, the only thing necessary is, that the objects of the garden should be called into requisition in the same way as those of the class room.

MIDDLE COURSE

(Nine to eleven years of age).

The duration of the Middle Course is at least two years for each pupil. In the first year, that is, at nine years old, the child is incapable of acquiring more than very rudimentary ideas of sciences, or of their application to agricultural matters. It is only after the introductory instruction, or, in other words, only in the second year and with children of at least ten years of age, that the teacher can begin to deal with ideas of agriculture properly so called, and even then, in accordance with official directions, he should proceed by way of reading lessons, object lessons and school walks.

* Organic Decree of Jan. 18, 1887, Art. 18, § 5, 3.

† Law of July 16, 1879, Art. 10.

‡ Cf. Regulations of Jan. 15, 1887, Special Programme of Object Lessons for the First Section of the Infant Schools.

The division of the instruction into two years presents no difficulties in the case of schools which have several classes, but in rural districts, where in most schools there is only one teacher, the lessons in science and in agriculture will necessarily be common to the whole class. The lessons must, therefore, include whatever is appropriate to each group of pupils, and must be in the form of a concentrated whole, from which each group will take that portion which is best suited to its mental capacity and development.

The teacher will have accomplished his task well, if it be found that his pupils, according to their classification, possess the knowledge indicated for each course, in the following pages.

FIRST YEAR OF THE MIDDLE COURSE.

First Half Year.

It would be difficult to "give some idea of the principal functions of life"—to give any satisfactory description of respiration, for instance, to children ignorant of the properties of air, not even knowing whether a gas is a material thing or not: as a preliminary, therefore, "the three states of matter" should be examined into.

The elementary principles of natural and of physical science can be made to form the basis of parallel lessons that will mutually complete each other.

With regard to natural history, animals are to be treated of first; the consideration of man will follow when the ideas relating to air and to combustion have been well fixed in the children's minds by experiments.

I. *The Three States of Matter*.—Some simple demonstrations are indispensable to induce observation and comparison of these three states. Plunge into water a wine-glass, or a funnel with the opening downwards; then let the air escape, when the bubbles will be seen or the pressure felt: or secure the air blown or breathed into a vessel of water, transfer it to another vessel, and measure it approximately. These are very necessary experiments, and they can be done anywhere without expense. The same may be said of the following—Produce steam; condense it—in other words, distil water, and observe the changes that take place or prepare a little oxygen and produce combustion, increase the vigour of this by a draught, identify the products; or demonstrate atmospheric pressure and the elasticity of air. Anything beyond this can be done later on.

The following illustrations will show how to make these simple experiments—



1 SIMPLE EXPERIMENTS ON GASES



3 COLLECTING AND MEASURING A GAS



4 STEAM ACTING LIKE A GAS



5 PREPARATION OF OXYGEN



6 AIR CONTAINS ABOUT ONE-FIFTH OXYGEN

APPENDIX D

II. *Animals*.—The teacher should stimulate the curiosity of the children by conversing familiarly with them, and telling them about the animals that they see every day. He should select the most striking features in the history of each. The dog and the horse will furnish matter for several explanatory and descriptive reading lessons, and for some little written exercises done, if necessary, with the help of pictures. The various species of the dog should be compared; the horse should be compared with the donkey, the cat with the lion and tiger, &c.; the habits of farmyard fowl, the periodic flight of the swallows and other migratory birds; the history of the metamorphoses of the frog, those of the cockchafer, as well as the damage it does; the silk-worm and the bee, and their products, &c.—all these should form a basis for most interesting reading lessons and conversations.

III. *Man*.—A short description of the human body should follow these lessons on animals. This might be begun before the experimental lessons described above are finished, but it is only when these lessons are completed, that the functions of nourishment and respiration should be dealt with. Beyond this the instruction should not go, but some advice on matters of health might be added.

Second Half Year.

This being the summer season, the pupils can be brought into contact with the actual objects required for the experiments or demonstrations. Sometimes the children or the teacher can bring them into the class-room, sometimes both teacher and children can go out to observe the objects. In rural districts an object lesson on plants should in no case be given without having the object itself before the children's eyes.

I. *Plants*.—It will naturally be well at first to draw the pupils' attention to an active phenomenon—that of germination, which is easy to produce and easy to follow in its different phases, especially in spring-time. A bean or a grain of corn, an acorn or a horse-chestnut, put into damp moss or sand, will furnish convenient specimens, or by making the experiment as is usually done in growing plants in water—the seed being supported by a cork floating on the water,—it will be quite easy to see the development of the little roots and of their essential organs, the root-cap and the absorbing hairs. Figure 7 shows how the experiment can be arranged, and the result that can be obtained in about a month.



1. CULTIVATION IN WATER

Germination of a *Phaseolus* (radish), and of a *Castanea* (oak); roots having root-cap and absorbing hairs.

It is from nature also that the branch, the leaf, and above all the flower, are to be studied. In the latter case, for instance, the first thing to do is to put a specimen of the flower chosen into the hands of each of the children; then under the general guidance of the teacher, each child should, either with a penknife or else an ordinary pin, separate the flower into its parts—calyx, corolla, stamen, and pistil. (Fig. 8).

A few well chosen examples will suffice to give an idea of the families of plants which are more particularly interesting on account of their good or bad qualities, i.e., useful and noxious plants.

APPENDIX D. Sow some seeds of rapid growth, early beans for instance (Fig. 11), some in good soil with a sufficient quantity of soluble manure added, some in sterile material, such as exhausted soil, sand, or gravel, or even glass broken into pieces about the size of gravel. The need for manure will thus be demonstrated; its composition will be dealt with later on.



11 PLANTS GROWN AS EXPERIMENTS IN STERILE MATERIAL

A Exhausted soil without manure

B Rich soil with manure.

The first ideas relating to "ordinary agricultural implements and operations" should be gained at first during school walks; they are to be developed in the "more systematic" lessons introduced in the programme for the Higher Course.

* * *

The Higher Course, properly so called, is seldom organized in rural schools. As a rule the more advanced or older children constitute a sort of upper division of the Middle Course; but however that may be, the following rule will serve for guidance:—*Children of 12 or 13 should receive more advanced agricultural instruction than is comprised in the programme for the Middle Course.* Teachers should therefore add to the foregoing, for their older pupils, so much as they can of the following programme. It will present no great difficulties, provided the pupils have been well grounded in fundamental scientific ideas, by means of simple experiments carried out in the class room, and provided they have been trained to observe from nature.

HIGHER COURSE.

(11 to 15 years of age)

The ideas of the physical and natural sciences given in this course are to be "a recapitulation and extension of the Middle Course." As regards man and animals the extension will, of course, be towards knowledge relating to hygiene; and so regards plants, towards some ideas of vegetable physiology, and some elements of chemistry. The following is an indication of the subject matter of the lessons for each half year, the ideas of natural science and of physical science being given in the winter months, and concurrently, so as to afford mutual support and explanation.

FIRST HALF YEAR.

I. *Animals.*—The principal distinctions by which animals are classified should be shown by examples taken as far as possible from the animals known in the country, preference being given to those which are either useful or the reverse. The domestic animals will naturally have the first place, and the teacher should seek to impress upon the children's minds the principles upon which are based the rules for the health and the feeding of stock.

The study of the principal organs may be facilitated by the direct observation of a dead animal. Some teachers are able to preserve the digestive organs of small animals, or even a skeleton, and thereby to enrich the school museum; the example they give deserves to be noticed.

II. *Man.*—The instruction in anatomy given to children should be such as to convince them of the necessity of observing the rules of hygiene. It should deal with digestion, circulation, respiration, and with the relation of the senses to the nervous system. Enlargement is to be avoided, as also all empiric presumptions, which should not be confounded with hygiene, far less with the science of medicine.

III. *Elementary Ideas of Physical Science.*—These are to be impressed on the children's minds by means of simple and inexpensive experiments. This part of the programme is to be carried out chiefly in towns and industrial centres. In the country, such instruction may be limited to demonstrations which bring out clearly the principal effects of heat, of light, of electricity, and of gravitation. The all-important matter here is, to stimulate the children's curiosity, and to select the subjects of experiment and illustration from those phenomena that are most easy to produce or to observe. It is only when such subjects are exhausted that others should be introduced.

Some ideas of meteorology are necessary: the child should be made familiar, not with the construction of the barometer and thermometer, but with the indications they furnish, and with the method of reading such indications. He should be enabled to read a meteorological chart.

IV. *Elementary Ideas of Chemistry.*—The experiments that can be made with extremely limited apparatus, are very numerous. Figure 12 represents the most complicated apparatus necessary in an elementary school. It can be made anywhere, and it will serve to extract the alcohol from any fermented liquid, or ammonia from any mineral manure containing it, or even from liquid manure.



12. DISTILLING APPARATUS.

Preparation of ammonia.

In selecting experiments those should be chosen which have a direct bearing on agriculture, the substances which nourish plants being considered as the most important. From wood-ashes, potash can be extracted; a acidified beer can be changed into soluble phosphate by being treated with dilute hydrochloric acid; it can then be reconverted into insoluble phosphate either by neutralizing the acid used, by a base, or simply with carbonate of soda. Lenses will detect the presence of ammonia in the compounds of ammonia, which are used as manures. The pupils will learn to distinguish the principal artificial manures of commerce, the nitrates from the compounds of ammonia and potash, the superphosphates from slag, &c. The really important thing is that the scientific terms which have become part of the current language of agriculture, should convey a clear and definite meaning to the children who are about to leave the rural school.

Knowledge of the principal manures will be much facilitated by the use made of them in the summer half-year, in the various experimental cultivations.

V. *Minerals.*—Ideas regarding the soil, rocks, and kinds of land, should be given partly by means of object lessons, the objects being taken from the school museum, and in connection with some of the chemical experiments; and partly by means of school walks, the latter being the most important part of the instruction.

VI. *Agriculture and Horticulture.*—The actual schoolroom lessons should be begun before the spring time, they should bear upon matters essentially connected with local cultivation. Each lesson should deal as far as possible with the things which the children have already seen and examined. The teacher must therefore begin by the subjects that have been entered upon in the Middle Course, and which have been explained during reading lessons, walks, &c.

He should then continue throughout the summer months, co-ordinating the lessons with practical exercises, school walks, &c. The subject matter of the lesson on agriculture or horticulture, properly so called, should be identical with the object of the last walk or of the next one, and with that of the practical exercise assigned for the same period.

SECOND HALF YEAR.

1. *Experimental Cultivation.*—Arrangements for this purpose should be planned and carried out in such a manner as to bring out clearly the following fundamental truths:—

(1) Air should penetrate easily into the soil, because roots cannot dispense with oxygen, they breathe as leaves do, they should always find suitable nourishment, that is to say—manure should be thoroughly mixed with the soil wherever roots develop.

(2) In all arable soil, four substances, nitrogen, phosphoric acid, potash and lime, are sufficient to provide for the entire nourishment and full development of cultivated plants.

(3) The cultivator need not try to furnish the soil with any substances other than those indicated above; these will prevent malle land from becoming exhausted, even if they are put into it in a merely mineral form; nevertheless in case they are so supplied, they may modify in an injurious way the physical properties of the soil. Organic matter, far from being useless, keeps land in a

APPENDIX D.

state favourable to the aeration and development of roots; moreover, it operates advantageously on the nutritive substances which the soil contains. Accordingly, in order to supply a soil, on the best conditions, with the four substances in due proportion, the first manure to be used is dung: it is to be supplemented by suitable chemical manures.

(4) A manure is suitable to a soil if it puts into it that which the particular soil lacks for the nourishment of the plants to be grown. Thus the composition of a good manure depends not only upon the kind of cultivation that is required, but also on the nature of the land: it is not possible to make up a manure that will suit all soils even for the same species of plants. Formulae or precepts said to be infallible and universally applicable, are no more to be trusted than remedies to cure all diseases.

(5) To produce fruitful harvests, the soil, after having been manured, must contain the four nutritive substances in a proportion that depends upon the species of the plant to be grown. Modern agriculturists should know that *excess* of one of the four substances is always *useless* and *costly*, and, moreover, that it may become *injurious* if any one of the other three is lacking in quantity. In other words, the *excess* of one of the substances is as *injurious* as the *deficiency*, the development of the plant depending upon that element of which the smallest proportion is to be found in the soil.

The first experiments in what we may call these demonstrative cultivations, which are very elementary but fundamental, are to be made in pots, or, better still, in wooden boxes, the children themselves helping. The following illustrations, reproduced from photographs taken from nature, show the simplest arrangements successfully carried out in numerous schools. The experiment represented (Fig. 13) proves that the four substances dissolved in a jar of water, will suffice to bring a plant to maturity. If the air is prevented from reaching the water in the jar, the oxygen which is necessary for the roots will fail, and the plant will die. Figure 14 shows one of the most simple ways of proving that if one of the nourishing substances is to be found only in a very small quantity in the soil (all soils, even the most impoverished, always contain a little of each of the four substances), vegetation suffers to a very appreciable extent.



13 REPRESENTATIVE CULTIVATION IN WATER.

The solution contains the four substances necessary for vegetable development, such as pieces of potash and superphosphate of lime.



14 EFFECT PRODUCED BY THE ABSENCE OR INSUFFICIENCY OF ONE OF THE SUBSTANCES.

The two pots have been filled with sterile or exhausted earth mixed with superphosphate of lime and carbonate of potash; when the corn was sown, a small quantity of water was added to one of the pots; the other contained only a very small proportion of nitrate, the original quantity in the earth supply of it.

The experiment described in Figure 15 is the starting point of the experimental plot; and although it is more complicated than the preceding one, it also can be carried out in pots or in boxes, or better still, in a corner of the garden if the soil be of good physical quality but very deficient in the nourishing substances. It is a very important experiment inasmuch as it illustrates the fundamental principles given above, and it shows especially the great difference that will appear in the yield of different parts even of the same field, according as the manure used corresponded or not to the composition of the soil and to the needs of the plant. It does not admit of a valuation of the return, being an experiment of quality and not of quantity, but it affords a remarkable proof that too much of one substance is as bad as too little.

OBSERVATIONS.—PRECAUTIONS NECESSARY IN POT CULTIVATION

The pots for this illustrative cultivation should be made of porous earthenware; this causes rapid evaporation and renders constant watering necessary. The pots should be placed in rather deep saucers. Into these saucers, water can be poured, and the supply thus given will probably be enough for several days, even in hot and dry weather. Or else bolts to contain the pots may be dug in the yard or garden, thus avoiding the excessive heating often caused by radiation, particularly near walls, which rapidly withers the plants under experiment.

The top layer of the soil in the pots may be covered lightly with moss, chopped straw, or even sawdust, in order to prevent the hardening caused by constant watering.



AFTER GERMINATION.



AFTER PARTIAL DEVELOPMENT.



AT MATURITY.

18. EXPERIMENTAL CULTIVATION IN RUBBLE OR STRATIFIED SOIL.

The 1st is the standard, without manure; the 2nd has received for each kilogramme of soil, a mixture formed of 500 grammes of nitrate of soda, 500 grammes of superphosphate of lime, and 500 grammes of chloride of potash; the 3rd received 500 and 500; the 4th 100 and 100; the 5th 50 and 50. The 1st produced more straw and less grain than the standard; therefore the mixture was superior, it was equal to the 5th.

The preceding experiments in cultivation, most of them so designed as to admit of being brought into the schoolroom at the time for lessons, should, in the case of some household vegetables, be repeated in a corner of the garden. These important experiments, which will to a large extent replace field experiments, where ground cannot be had, ought to be carried out on the following plan:—

Transplant young cabbage or salad plants into three ridges close to each other. In the first ridge there should be no manure; the second should be thoroughly dressed with manure well suited to the soil and to the plant; the third should be given other a manure which is deficient in the necessary substances, or else farmyard manure only. Figure 16 represents the results obtained by such an experiment. The weight of a cabbage varies considerably according to the ridge in which it has grown.



16. ACTION OF THE DIFFERENT MANURES IN THE GARDEN.

Cabbages have been planted out in three ridges, A, B, C. A had farmyard manure; B had several manures as well as farmyard manure; C, no manure. The figure represents one of the cabbages obtained on each of the three ridges.

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Of the elementary experiments that can be done in pots or boxes, special attention should be drawn to two of great importance. The first (Fig. 17) illustrates the fact that the liquid and gaseous substances contained in farmyard manure have great fertilising properties. The second (Fig. 18) demonstrates the absorbing power of arable soil.



17 FERTILISING POWER OF

The three pots are sown with grass &c. the manure is in the middle in the jar & take it by means of an India-rubber tube

18 GASEOUS PRODUCTS OF FARMYARD MANURE

covered liquid manure - B gets the gas which escapes from ed rotting. The air in the jar B is renewed by blowing in

Grass seeds or some corn sown in three pots filled with clay of poor quality, will do for each of these experiments. One of the three pots (C) serves as the standard, and receives only the ordinary watering. The second (A) is given liquid manure; the third (B) receives only the gas produced by the fermentation of dung and liquid manure (Fig. 17,) or else it first of all receives liquid manure, and is then thoroughly drenched with water, which does not reduce the fertility. (Fig. 18).



18 ABSORBING POWER OF THE SOIL.

The soil in boxes 1 and 2 has been soaked with liquid manure, box 1 has then been abundantly watered by rain, box 2 has received nothing, it is the standard.

The value of the manures annually wasted in France exceeds five hundred million francs (£20,000,000), and a great boon would be conferred on agriculturists by convincing them that the first practical advance they can make, without the expenditure of capital, is by diminishing this enormous waste. The foregoing experiments will make this waste evident, and if they are completed by exact directions given on the spot, in view of some well or badly managed manure heap, there is a good chance of the lessons bearing fruit. Teachers could do a great deal towards clearing the streets of our villages of the streams of liquid manure that infect the atmosphere, and defile the waters of springs and wells, instead of being employed to bring fertility to the fields of those who neglect to use them, and yet who complain of the deficiency of their harvests.

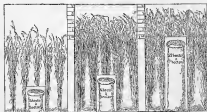
The experiments indicated above are essential as a basis for all instruction in agriculture. It is most desirable that they should be carried out in all rural schools, each at least once in every period of two years, so that each child of more than eleven years of age, should have assisted at all of them.

These, or similar experiments, require but little care, and cost almost nothing; they are the natural and necessary introduction to those that will afterwards take place in the experimental plot.

II. The Experimental Plot.—It is impossible to attach too much importance to the necessity for persistence in the organisation of experiments which are designed chiefly in order to show agriculturists how to set about obtaining from a given soil, a more remunerative yield than that which is got by the ordinary methods. It should here be remembered that there are no such things as universally applicable formulae, and that the best measure for the plant should include that nourishing substance in which the soil is deficient.

Knowledge of the soil, therefore, is necessary before deciding upon the fertilising substances to be employed in experimental plots. Accordingly, teachers in carrying out these operations, would do wisely to follow the advice of a special professor, or of a practical expert. They should carefully avoid using excessive quantities of manure, and should take the ordinary custom of the district as the standard of comparison. Thus, even the simplest of experimental plots should always include the three following divisions (Fig. 19) —

- (1.) The standard (without manure).
- (2.) Only farmyard manure in the quantity usually used in the district.
- (3.) The same quantity of farmyard manure, with the addition of artificial manure in a proportion determined by the nature of the soil, and that of the plant under cultivation.



19. EXPERIMENTAL PLOT SOWN WITH WHEAT

THE MANURE given to No. 2 has been determined by the Professor of Agriculture from his knowledge of the soil.

In other plots, for the sake of gaining supplementary information, the nature of the manures applied to the third section, might be varied by leaving out one or more of the constituent elements.

It is as an assistant in the work of the Departmental Professor of Agriculture that the teacher works at the experimental plot, but it is in his own garden, that he should carry out the most convincing experiments, by devoting himself to the propagation of the best kinds of vegetables and fruit. It may here be particularly noted that the teacher can do a useful work as regards fruit and kitchen gardening, without exceeding his proper functions, and, at the same time, find therein a source of some personal profit.

The pupils should participate in the foregoing operations to an extent regulated by their age and their natural capabilities, as well as by their scientific knowledge. No hard and fast rule can be laid down in this matter. Sometimes most of the pupils will merely look on at the pruning, grafting, etc., of a fruit tree; sometimes the older pupils will themselves use the pruning knife, and will even gain the skill required for obtaining the diploma for vine-grafting; sometimes, again, all will be employed in watering or weeding a corner of the garden devoted to experiments. The work must be rational, requiring the exercise of the intellectual faculties as well as the labour of the hands.

III. School Walks.—These should be both preparatory and complementary to the class-room lessons on minerals, on rocks, on the principal kinds of soil in the neighbourhood, on useful or injurious insects and plants, on the essential operations of cultivation and the manipulation of agricultural implements, on the distribution of manures, on sowing, on crops, etc.

The important thing is observing or investigating agricultural operations as to their application of the scientific ideas that have been acquired, or are about to be acquired, by means of the ordinary lessons. For instance, it is not enough to show how ploughing makes the land lighter, it should be carefully explained that the breaking up of the soil assists the development of the roots, enables the moisture to reach them, and that the aeration that it causes, ensures to the roots a sufficient supply of the oxygen which they need. The same course should be followed in explaining most of the other agricultural operations.

The following is an indication of the principal subjects for study, and of the nature of the observations to be made during school walks, and of the practical exercises common to both the Middle and Higher Courses:—

Ploughing.—How the different parts of the plough are placed; how the ridges are cut by the coulter and the plough-share and turned back by the mould-board, which is shaped like part of a harrow; the distance from the point of the coulter to that of the plough-share, according to the stiffness of the soil. The method of lightening the soil, of watering it, of manuring it, of stirring the water of the sub-soil. How the depth of the ploughing is regulated. The season for ploughing and the number of times it should be done, as well as in fallow land.

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Harrowing and Rolling.—How the tools are placed in a harness. The effects of the operation of the harrow and the roller on the soil—levelling and superficial pulverisation. The result as regards gravel or clay soil if rain exposures—hardness proloved and action impeded. Action of the harrow on seed plots, on dog grass and other noxious weeds. The crushing of clods of earth by the roller: levelling with a new to facilitate mowing or mowing later on. The raveling up of winter crops that have been exposed by frost. The means for harrowing and rolling.

Use of Manures.—Management and spreading of farmyard manure. The different kinds of manures. Their use before and after sowing. Manures used as top-dressing in tillage, in meadows, and in gardens, effects of farmyard manure in hot-beds for early vegetables or fruit.

Sowing.—The conditions necessary for germination; effect of the depth of the seed plot, and influence of the season. The quantity of seed.

Pruning and Grafting.—Peeling and grafting of fruit-trees, shrubs, and vines. In vineyards infested with phylloxera, practice in grafting vines should receive very particular attention.

Lighter Operations of Tillage.—Dressing the earth, development of adventitious roots; second tilling; destruction of weeds; section of the superficial roots; the danger of the second tilling being too deep in the case of some plants, vines, etc., weeding.

Cracking.—The selection of deep-rooted plants to those with superficial roots; notes found again in the soil—green manure, fallow land.

Harvest.—Principal operations, management, preservation and selection of the harvest raised in the district.

The manipulation of mechanical implements, such as the horse-rake, the mowing machine, the reaper, the scythe, the threshing machine, the sorter, the straw chopper, etc., will furnish, if common after, subject matter for instructive explorations given by the teacher or by the men who use these machines.

To sum up: Explanations of the work done by the agriculturist in his fields or in his vineyards, in his granary or in his cellar, in his stable or in his farmyard, should be necessarily based on observations from nature; they should give rise to lessons in the class room, before or after the school walk, and to written exercises, and to comments made, as a rule, during suitable reading lessons.

No doubt, the child, on leaving the elementary school, even after completing the normal period of school life, and having attended regularly, will have acquired no more than what, from the point of view of the sciences of agriculture, are merely elementary ideas; but if the study [of it has been made attractive and interesting to him, he will continue it as far as he finds means to do so.

The introduction into popular libraries of well-chosen works on agriculture and of publications specially edited to the cultivation of the district, constitutes one of these means, but that will not be enough. It is necessary that the youth should not only retain, but should complete and extend, the knowledge he has gained as a child; and this he will do with a facility increasing with his years, if interruptions in his subsequent education be avoided. Too much, therefore, cannot be done to support and encourage the zeal of those teachers who re-open school for their former pupils, on some of the long winter evenings. Familiar chats, readings, well-selected practical exercises, an occasional meeting, with experiments done or planned—all this serves to stimulate among young people an intellectual activity very profitable to the progress of the country.

As with all other instruction, so with that in agriculture, the work of schools must remain incomplete unless provision be made for its continuation and development.

DIGEST OF MINUTES OF EVIDENCE.

I.

EVIDENCE TAKEN AT THE FIRST SEVEN PUBLIC SITTINGS

[DIGEST OF VOL. I.]

AGRICULTURE.

HAMILTON.

Teachers not in Training Colleges may attend courses in agriculture in the Albert Agricultural Institute, which last for six weeks. In this case the teachers may obtain special permission to close their schools, or to provide substitutes, 343-6.

The results examination in agriculture is purely on bookwork; in school-farms and gardens there is an additional practical examination with higher fees, 305-6, 311-3. Does not entirely agree with the condemnation of the present instruction in theory of agriculture as quoted from numerous extracts from Reports of Inspectors, 214-6.

PITMAN.

The present instruction in the schools consists of committing the text-book to memory, 736. Instances intelligent agricultural instruction by a teacher in Nass school, who makes collections of seeds, grasses, &c., with the aid of his pupils. He receives no encouragement by increase of fees or otherwise. He also has a school-museum to which the pupils contribute specimens. Boys should receive instruction in botany, 185-86.

CARROLL.

The quality of the instruction has improved considerably. The percentage of passes in 1880 was 46.9; in 1881, 149.4; in 1882, 47.5; in 1893, 60.9; in 1894, 63.4; in 1895, 63.9. The number of pupils presented for examination, being male pupils in fourth class and upwards in rural schools who had qualified by making the requisite 100 attendances, in 1882 was 44,483; in 1895 it was 82,514, out of whom 52,717 passed, 1195-1206. Has been a compulsory subject in rural schools since 1877 or 1878, 1225. Is not compulsory in city schools 1492-4. Considers a text-book knowledge as useful, 1208-19, and that the £12,000 paid in 1886 in results fees was well spent. Had been surprised in some cases to find boys repeat page after page of the book and know very little about the meaning. Does not however agree with the opinions of the District Inspectors quoted, as to the inefficient nature of the instruction. Echoes their Reports would be different if they knew more of the subject and took a greater interest in it, 1247-50. Has nothing himself to do with the examination of this subject, 1261. Hopes the introduction of an intelligent text-book may prevent mere memory work, 1265, 1489. The instruction should be experimentally illustrated, 1453. Strongly advocates introduction of instruction in botany, 1454.

ALBERT AGRICULTURAL INSTITUTE.

CARROLL.

Gives particulars as to various classes of pupils attending the Institute, and average attendances for certain years. Attributes falling off in attendance of school-teachers at courses, from 1889 to 1896, to non-payment of their travelling expenses. These are three summers each year, of six weeks each, for school-teachers, 1106, 1164-6. They attend such of the lectures for students of the eight months' course as are given during their session. There should be a separate course of lectures for them as this provision is inadequate, 1107-13. The separate courses of lectures they get are in the direction of explaining the practical management of crops and live stock, which is useful to those who have a previous knowledge of agriculture, 1114-21. They do not attend the eight months' course for male agricultural pupils, which runs from 1st March to 30th September, 1123-5. The Institute should be converted into a normal college where school-teachers should pass through a year's or two years' course of agriculture and scientific training, 1131-6; and a course at hand-craft, 1137-40. There is a professor of Agriculture in Queen's College, Belfast, but no course of lectures. The Queen's College might be utilized for training school-teachers. The teaching of agriculture at these

Colleges has hitherto been a failure, 1143-6. Agricultural experiments, such as the spraying of potatoes, &c., are carried out at the Albert Institute, and are useful to the pupils, 1141-2, 1193-4, but there are no attempts at experimental chemistry or physics. The accommodation for demonstration lectures is not suitable, and the pupils have no facilities for experimental work, 1147-51. The National Board is at present the only body in Ireland to undertake the conduct of such institutions as the Albert and Monaster Farm, 1155. The pupils attending the Albert Institute show a total lack of the faculty of observation, owing to the absence of previous manual and scientific training, 1159. If the primary system were improved in this respect, the Model Farms would be more effective, 1160. Of the teachers, those only attend who have farms or gardens; the indifference of the others arises from their having no land attached to their schools, 1163. The male students of Marlborough-street Training College attend; those of Drumcondra do not, as they have a special agricultural teacher and land attached, 1172-5. About thirty attend one day per week from Kildare-place, 1176-8. The De La Salle Training College, Waterford, has a farm where useful instruction is given by a competent teacher, 1180-4. Advocates an arrangement by which the teachers in training should reside in Glanerin

APPENDIX B

I.

ALBERT AGRICULTURAL INSTITUTE—continued.

for a year's course of training, 1226-9. This would not include the De La Salle College, the farm of which could be developed into a centre, 1230-2. In the case of the De La Salle College there are no public funds for the agricultural department, apart from the grant for the College; whereas the grant for the Albert Institute is independent of those for the Dublin Training Colleges, 1235-7. If Dr. Sullivan's idea of a Normal College were carried out, the Albert Institute would require to be largely developed, 1238; for the entire number trained in all the Training Colleges in 1895 was 240, whereas the number of vacancies for teachers was 490, so that the Training Colleges were 250 short of the demand, 1244-7. The Albert Farm is 180 acres, and the students are taught farming, gardening, carpentry, blacksmith's work, surveying, levelling, and mapping, 1250-5. Distinguishes the profits on the Albert Institute as a farm and as an educational institution, 1260-2, 1266-8, 1408-14; and gives the net cost to the State of Glasnevin and Maunster Farms together, 1312. In 1895, in the Albert Institute, the cost of the maintenance of

ALBERT AGRICULTURAL INSTITUTE—continued.

the pupils, and salaries, was £3,615. The profits on the farm—outputs £2,379, and farm produce £2,741—amounted to £262. Fees of pupils, £248. Subtracting these from £3,615 leaves £2,703, being cost to the State in 1895, 1313-9. Gives provision made in the Institute for practical instruction in agriculture, 1417-32. There are two courses of six weeks each, from 6th November to 20th December and from 6th January to 20th February, for female dairy pupils, for whom the pupils pay £3, 1326-9. This department was established in 1888. All the appliances are provided, 1394. The pupils also attend cookery and sewing classes, 1296. At the examinations the use of only the simplest appliances is permitted, 1304. The course is for farmers' daughters, not for the school teachers in training, 1613-4. A course in dairy instruction was commenced about four years ago for the female Queen's Scholars from Marlborough-street Training College, but was discontinued on establishment of the itinerant dairy instruction. It will be recommenced as the Scholars are anxious to learn it, 1297.

ALTERNATIVE INDUSTRIAL SCHEME.

PURSER.

It is an alternative programme under which sixth class girls spend two hours a day—not necessarily consecutive—at various classes of needlework, the ordinary provision being one hour for needlework. It is adopted in 1,500 schools. The cost of providing materials, which falls on the teacher, prevented its general adoption, 724-38. Would prefer the introduction of some form of manual work for one hour daily for girls, 731-4. Most of the important schools got exemption from the scheme; and where introduced the girls, having an insufficient supply of materials, spend much time in filling and gossiping, 515-51. Some industrial subject, other than needlework, should be substituted for it. The Commissioners supply the materials at cost price from their stores, but the rule is, if the clothes cannot be sold, falls on the teacher, 842-43.

STRONG.

Explains provisions of Industrial Programme, 1006-9. Gives instances of loss to a Convent school arising from difficulty in selling the clothes made in industrial classes, 1010-2. This might be met by the pupils making or mending their own clothes, 1060-2. The scheme is really akin to the teaching of trades, having none of the educational features of Sloyd. Does not approve of teaching industries in the schools. Pupils under the scheme must take up two industrial branches and the ordinary needlework. The programme might be made suitable by the postponement of one of the two industrial subjects until second stage of Class VI., or it might be confined entirely to second stage of Class VI., allowing the rest to revert to the one hour for needlework, which is ample provision, 1016-35. The scheme is most unpopular in Belfast where, as well as elsewhere, the objection is made that the course tends to make dress-

makers instead of educated girls, 255-60, 1073-4. This objection would not apply to a course of manual training, 1077.

MISS PRESTONDAUNT.

The scheme endorses an extended course of needle work, many of the varieties not being useful or suitable, such as ecclesiastical embroidery in gold and silver and flower making; but dress-making and the making of fine underclothing are useful, 1981-4. The great difficulty in the scheme is that of providing materials. Where the parents will not supply these, the children are occupied and set to sew the same stitches over and over again on little pieces of calico. There is also a difficulty in getting the parents to buy the articles when made up. They prefer to buy ready-made clothing. Gives instance of successful arrangement at Kenmare Convent school, 2032-43. Has found useless work done, such as artificial flower-making in paper, and work chosen solely because of the small amount of material required, 2083-5. The Commissioners' depot for supplying materials has of late received no grant for buying fresh materials, and those that remain are generally the rejected of former years, 2103-7. Would advocate the reduction of the number of special industries that may be taken up under the scheme, from two to one, with the ordinary provision for needlework, 2161-75. The scheme is to some extent concerned with the work of a work shop, 2176-86.

MISS KENNY.

The great obstacle to the extension are the expense of materials, and the difficulty of disposing of the work when completed. The parents or teachers must pay for the materials, and there is no market for the work. Children come to school with torn clothes; they might be usefully employed in mending these, but the teachers are afraid to draw attention to this matter as the children will cease to come to school if they do so, 2556-61, 2690-2.

CLAYMODELLING.

MISS KENNY.

It forms a portion of the Kindergarten work for third class. Has seen it taught in the Derry Model School and in some Convent schools, 2507-11.

COMPULSORY ATTENDANCE ACT.

HARRISON.

Its adoption rests with the Local Authority. The Act which is in force in but 45 places, applies to 118.

The limit of compulsory attendance is fourth class, 303-4, 308-15.

COMPULSORY SUBJECTS.

HAMILTON.

The compulsory subjects are, reading, writing, spelling, arithmetic, grammar, geography, needlework (if it be a girls' school, or there be a school-mistress),

and agriculture in the case of rural schools under a male teacher. In urban schools, book-keeping may be substituted for agriculture, 107-23.

COOKERY.

HAMILTON.

Cookery and also laundry work may be taught during school hours. The course in cookery includes both theory and practice, 118-21, and both the teaching and examination are practical, 307-8. There are four different cookery teachers supplied by the Kildare-street Institution for all Ireland, who give demonstration lessons on which the Inspectors examine, 218, 363-70. It is also taught in Convent schools by competent uncertificated teachers, 371-2. The expenses of equipment and a kitchen must be provided from local sources, but in the Model School, Marlborough-street, they come from the College funds, 223-7.

PUSSEY.

It is taught practically in a special classroom on certain afternoons. In a few places a special kitchen is utilized, 721-3, 806-7. It could be taught in schools having a single classroom, by dismissing those not receiving instruction. In suspect towns there should be classes for boys in cookery, 777-80. In 1895 it was taught in sixty schools, mainly Convent schools. The teacher or the pupils must provide the materials, 837-44. Since 1895 the four specialists who hold a diploma of the National Union, are provided by the Government, which pays their salaries and travelling expenses and the cost of certain materials, 864-70.

STANSON.

Saw one of the itinerant instructors at work in Carrickfergus, and she appeared well qualified. Prefers specialists to ordinary school teachers. By the rules, the instructor can only take sixteen girls for the practical lesson which lasts two hours, and at which the girls themselves cook, but at a demonstration lesson, at which the girls take notes and the teacher cooks, also lasting for two hours, any number may be present. Eighty girls may thus receive a practical lesson in the week, 1084-83. One of the great difficulties in cookery instruction is that of paying for the materials. Instances a case when the children provided the materials, and when cooked took them home, 1090-6.

MISS KERRY.

Cookery lessons should be given in every female school. The great difficulty is how to pay for the materials. They can make the fire on an open hearth. Potatoes and cabbage, the common articles of food, are not well cooked as a rule in Ireland. The wives of the labouring man do not know how to cook. In suspect towns also where the boys are taken by the fisherman to act as ship's cooks, boys should be taught cooking, 2635-45.

DAIRY DEPARTMENTS.

CARROLL.

Instruction in dairy management is confined to Convent schools, 1572-1597. It is only sanctioned when inquiry shows that proper appliances and a competent teacher are provided, 1575. This instruction produces beneficial results, 1574. The cost of the appliances and of training the teacher fall on the school itself, 1605. The only payment is the rent for the land, 1606. In the Albert Institute the appliances

and teacher are paid for out of the public funds, 1605, but in Convent schools the Nuns have to provide these from their own resources, 1609. To fit up a dairy, train a teacher, and provide apparatus, would cost over £100. The rents for 5a. If twenty girls were examined the £5, rental fee, might be considered an interest on the capital, but there would be no remuneration for the teacher, 1610-12.

See also ALBERT AGRICULTURAL INSTITUTE

DRAWING.

DOWLING.

The programme in drawing for sixth class looks extensive, but the extent of instruction actually given is confined to mere copying from the flat, 483-6. It is taught by the ordinary teacher. In 1895 there were 1,657 masters and 1,553 mistresses returned as being certificated to teach it, 487-8. In 1895 it was taught in 1,431 schools, on against 1,047 in 1891. In 1895, 30,238 boys and 36,919 girls were examined in drawing. The total number eligible for instruction, from third class upwards, was 245,971, 489-503. The obstacles to the extension of drawing instruction are the incapacity of teachers and want of time. A large number of teachers who obtained certificates in drawing do not teach it. Many of those obtained their certificates years ago, and would be quite unable to give instruction now, 506-10. Explains how a special teacher of drawing came to be appointed in Marlborough-street Model School, 511-29. Children will not stand beyond the compulsory hours, and it would be injudicious for a teacher of a small school to take up any optional branch in the four obligatory school hours, 531. Considers drawing should be compulsory, but that a teacher should not be compelled to get a certificate in order to teach it, if his results satisfied the Inspector, that should establish his competency, 532-5. Agrees in the main with the unfavourable reports of Inspectors quoted, as to the teaching of drawing in the schools, 547-51.

PUSSEY.

Drawing in the Training Colleges is mainly freehand, with a little model and geometrical drawing. In the schools it is confined to freehand, 556-63, 656-61. Kindergarten-drawing is taught in the infants' school, but on entering the senior school the pupils do not take it up until third class, leaving a break of two or three years, 563-5. Describes methods of instruction in the schools, 566-9. The fee is 2s. 6d. in third class, and goes up to 3s. in sixth class, and is paid only to teachers holding a certificate, which is obtained by examination. Sixty per cent. in one of the three—freehand, geometrical, or model drawing—entitles to a certificate in that kind of drawing, 570-3. This percentage should not be maintained, since 25 per cent. in the ordinary subjects satisfies the Board, 578-9. Would lower the standard to 40 per cent., 700-12, which would enable many of those now rejected each year, to qualify, 582-4. Would lower the standard only temporarily, 587-8, and would not advocate abolition of examination, 593-612. Until the teachers are more competent, drawing cannot be made compulsory, 635. In England it was made compulsory after five years' notice, but that most of the teachers go through the Training Colleges, where it had already been compulsory. Those not passing through Training Colleges must have been taught in centres; but their towns are sadder to grow than ours, and they also had Science and Art Classes, 662-3. Disapproves of a

APPENDIX B. DRAWING—continued.

system of centres for specialist teachers to teach the pupils and not as peripatetics in surrounding schools, as being exceedingly expensive, 618-43. The same objection applies to the employment of drawing-inspectors, 447-52. There are two grades of passes in drawing, as in other subjects, but it makes no difference to the pupil, the teacher, or the school whether the pupils obtain the lower or the higher pass, 613-7. The time given to drawing is one and a-half hours per week, 688-72. Approves of the teachers attending at centres on Saturdays, to qualify under a specialist instructor, 690-4.

STEWART.

Antaghtat present, drawing is practically worthless; the master should begin by drawing a cube or some object on the board and letting the pupils imitate it, 892-6. There is at present no teaching; it is mere imitation of a pattern—a system which is countenanced by the programme. The teachers are not inefficient, but the system is at fault. Gives instances of excellent instruction in a Convent school. This method of instruction is also followed in the Kildare place Training College, 904-8. If specialist teachers were appointed for certain centres to teach drawing in the surrounding schools, three visits of an hour each should be given to each school each week. Instances Mr. Almalrook, agricultural instructor in Newcastle, Limerick, who found he could give but an hour a week to eight schools. At that rate, one thousand specialists would be required. If the ordinary teachers were brought to centres for Saturday lectures, a course of forty lessons would be required to make them proficient, which would mean the entire school year. If they were given two hours instruction each Saturday, then twenty lectures would suffice. Specialist inspectors to supervise the instruction in the schools and advise the teachers, would be an excellent institution. Drawing is not one of the subjects taken by the candidates for the Inspectorate, 908-28. For black-board drawing from the object, the teachers would require special instruction, 938-56. Teachers might also come up to Dublin for a special course, just as they at present come to qualify in agriculture, 1001-3.

MORAN.

Teaches the Queen's Scholars in Marlborough-street Training College, who average about 100 male and 160 female students, and superintends in the same schools—the Central Model Schools—annexed to the College.

Proficiency in drawing of students entering is limited to those who enter having the Board's certificate. In the first year the Queen's Scholars get three hours a week in elementary freehand, 1615-24, at the end of which they succeed, as a rule, in getting their 60 per cent. in freehand, which gives them their certificate. The second year's course is model drawing, preceded by elementary perspective, 1637-9. Gives lessons to a number of pupils selected by him from the annexed Model Schools. The Queen's Scholars are present, and make notes of the method of teaching, and marginal sketches of the several stages, and subsequently give lessons to an imaginary class in presence of their companions, 1630-1. In 1889 the Board permitted drawing to be taught by the ordinary school teachers in the Central Model Schools. He supervised the instruction, and induced them to use diagrams placed at a distance. Adverts to difficulty arising from absence of any text-book on method of teaching drawing, 1633-5. The special drawing class of pupils from the Model Schools, which is well attended by girls, but not by boys, consists of promising children, picked and taught personally by witnesses, who do model drawing, geometrical drawing, and elementary design, 1634-42. Has no authority to compel attendance at that class, and no results fees are given for this special drawing, 1670-5, 1762-74, 1780-2.

The teachers, in one year's course of teaching,

DRAWING—continued.

acquire a knowledge of the theory and practice of drawing, 1613-5. Was unable to distinguish between Model School pupils entering with previous instruction, and National School pupils, until very recent years. As a rule, drawing is a go-as-you-please subject, the pupils doing a lot of work, but without any method, 1644-52.

Every student on entering, who has not a certificate, is put to drawing. In certain years the numbers gaining certificates were 158, 166, 129, but in 1884 only 50, being 24 male and 26 female students, obtained them, 1653-5. Considers every intelligent person able to learn drawing and teach it, 1655-8.

Drawing should be continuous from kindergarten to sixth class. The two years' break between kindergarten and third class should not exist, 1659-66. Considers the two hours' instruction per week given, not consecutively, in the schools, a fair proportion, 1667-8. Should drawing be made compulsory, all teachers who go through the course of instruction—even those who fail to obtain a certificate—would be competent to teach up to sixth class, 1677-82.

The Board's certificates simply mention that the person gaining it is qualified to teach drawing, without specifying the kind of drawing, 1687-91. Gives particulars of the Queen's Scholars' yearly examination, but states there is no practical examination in method of teaching drawing, 1699-1710. Drawing to scale should be taught. Approves of peripatetic experts of drawing to visit the schools once a week, 1711-53. Denies that a special talent is necessary to teach drawing, 1731-4; but holds that 20 per cent. should qualify for a certificate, in addition to getting 50 per cent. all round, as is the rule for ordinary subjects, 1737-45. Would make certificate depend on competency to teach, 1746-51. Holds no certificate himself, 1759-8.

COOPER.

The course in Kildare-place Training College covers freehand, model, geometrical, and perspective drawing. Two hours a week are given by the male students, three by the female, 1786-8. On entering, 80 per cent. of the students have almost to begin at kindergarten drawing, at the end of the first year about 10 to 20 per cent. pass; 80 per cent. of the remainder pass in the second year. The remainder are sufficiently trained to be able to teach elementary freehand well, 1789-94. The South Kensington standard is higher than that of the Board; very few of the students go in for it, 1795. The new programme for Training Colleges makes it a compulsory subject, and every student is expected to pass in one branch of it at the end of each year, 1796. The low standard in the schools is due to the limited time, two lessons of an hour each should be given in the schools instead of two half hours now present, 1803-4. The Vere Foster drawing copies in use in the schools have been much improved in recent years by Messrs. Blackie. The introduction of Irish design would be very useful to children, 1805, 1914-6.

Those who have been trained in Model Schools are much better and more efficiently taught than the average students. Some arrangement should be made between the Training College in Dublin and the School of Art, by which those who take high certificates might attend for two or three hours a week at the School of Art. Some of those who become teachers in Dublin schools, should also attend the night classes at the School of Art, 1807-10, 1848-52, 1901-2, 1927-40. The poor results of the present system in the schools are due to the time given to drawing being too short, and to the inefficiency of the teachers, 1811. If drawing be made compulsory for teachers, the high percentage now required to gain a certificate must be dropped, and the same standard be substituted that now qualifies for any of the compulsory subjects, 1813-8, 1823-5. For the present system of granting a certificate in Training Colleges, one should be substituted, consisting partly of a test drawing and largely of the report of the professor of drawing. For teachers now holding schools, the

DRAWING—continued.

certificates to teach should be granted on the report of a competent expert, after seeing how they teach the subject to their classes, 1834-47, 1853-61. In model drawing the percentage of Queen's Scholars in Kildare-street Training College qualifying in the last seven years, has been 13 per cent., 1856-7. In drawing to scale they only learn incidentally the principle on which such work depends. More time must be given for drawing if scale drawing is to be taught, and if the standard of the Queen's Scholars is to be raised, 1848-9. It would be easier and better for the majority of the Queen's Scholars to begin with elementary geometrical drawing, 1870-3. They could not at present pass the Fifth Standard of the Science and Art, on entering, 1874-7. The best plan would be that they should take geometrical on entering, freshen the first year, and model the second year, instead of the present programme, by which they may keep at the one subject during their entire course, 1878-80. At present it would be impossible to develop designing, the art side of drawing, 1891-4. If drawing were made compulsory it would be necessary for the Board to send round itinerant experts to instruct the existing teachers, and for those residing in and near Dublin, Belfast, Cork, and Limerick, where good Schools of Art exist, attendance for at least a six months' course of two or three lessons per week at the School of Art should be enforced, 1895-800. Under the present system, if a Queen's Scholar or teacher goes up in two branches of drawing, he must get 50 per cent. in each, 40 per cent. in one and 60 in the other will not pass him, 1908-9. Would give the Queen's Scholars more practice in blackboard work, which is essential to all teachers for many purposes. At present there is little or no time for it, 1904-4. Would not give a certificate to any teacher not having a fair proficiency in blackboard work, 1941. Would advocate a system for rural schools by which itinerant experts would go round the schools within a certain radius, in the daytime to give the instruction, from watching which the teacher, would learn method, and in the evening bring the teachers together in a centre for formal instruction, 1943-42. These experts might also act as inspectors of drawing, which is at present done by the ordinary inspectors, 1956-73. Would not advocate the teaching of drawing by itinerant instructors, to the exclusion of the ordinary masters, as a permanent institution.

In kindergarten-drawing, both tablets, hung at a distance, and copies should be used. Coloured chalk is only permitted in third class, whereas it should be put into the infant's hands from the beginning, 1905, and drawing should also commence in the infant class, 1928-5.

MRS KERRY

The teachers, although certificated, are sometimes inefficient, and the work is done in a slipshod way, 2493-7. The children get little bits of pencils to work with; they have themselves to buy the copies, india-rubber, and pencils, 2498-9, 2524-6, 2541-7. The materials for writing—copy-books, pens and ink—must also be provided by the children or their parents. Thus they do willingly, because they regard the accomplishment as useful, but drawing they consider purely ornamental, 2585-4. Drawing should be compulsory

DRAWING—continued.

for both children and teachers. For those teachers who do not at present know how to draw, centres should be opened over the country, to which they might go on Saturdays, having their travelling expenses paid, 2500-6. If the number of organizing teachers, which is now two, was increased materially, they might instruct the teachers in these centres, 2512-7, 2527-40, 2548-9. The present provision of half an hour a day for drawing in the schools is sufficient, 2518-25.

JONES

Object drawing, which is practically not taught in Ireland, should be made compulsory, as is the case in all Continental Countries, 2709-15. It should commence at the same time as drawing from the flat, 2721-3. Drawing should enter into the ordinary curriculum for the Queen's Scholars. By the revised programme, in future drawing will be compulsory for all teachers going through the Training Colleges, 2723-6.

Expert teachers should be sent to centres to instruct the teachers, and due notice should be given that in a few years drawing will be compulsory for every teacher. In that event the percentage required to qualify the teacher should be lowered, 2731-3.

HERMAN FOX.

Objects to want of definiteness in the drawing syllabus of the programme for Training Colleges. A mere statement, "Perspective," is insufficient indication of the extent of the course. Derived his idea of the work required entirely from the papers set in former years, 2875, 2878-83. If practical purposes are to be considered, drawing from copies must be superseded by simple object drawing, 2975-6, 2983-7. The object drawing at present carried out is merely artistic, that is, not to scale or measurement. What is wanted is not the drawing of objects, but the drawing of the plan and elevation of those objects. Our programme is modelled on the South Kensington one, with the elementary practical work omitted, 2988-95. Freshmen should consist of rough drawing from simple objects, afterwards corrected to scale, 3002-4. In Training Colleges the students should be taught to work at the blackboard. Has every reason to believe that under the revised programme for Training Colleges, the students will almost universally take up freshmen in place of the more useful solid geometry, 3005-3. Strongly advocates for Training Colleges and schools, simple object drawing roughly sketched, and afterwards corrected to scale with rule and compass, 3009-16. Drawing is practically compulsory in the Drumcondra Training College, 3027-8. Measurement being now a separate and compulsory subject, the students may have greater ease in taking up practical geometry, 3030. Instruction in practical geometry should precede and serve as an introduction to Euclid, 3031-5.

Would award a drawing certificate solely upon such a knowledge of solid geometry as would enable the masters to make plan and elevation drawings of simple objects; freshmen, object drawing, and geometry should therefore begin simultaneously, and be requisite for that degree of efficiency only. Efficiency at blackboard work should obtain extra marks, 3036-47.

ELEMENTARY SCIENCE.

HERMAN FOX.

Should be introduced into the schools as a medium for cultivating observation and accuracy. Carelessness about measurements seems to be a national fault, 2994-3001. If manual instruction were introduced, would advocate construction of apparatus for instruction

in mechanics, by the pupils, 3019-22. Would evolve the sciences teaching from the object lessons in the kindergarten stage, and would attach importance to the pupils making the experiments themselves, 3025-6.

GEOGRAPHY.

PUNNET

Disapproves of present instruction in geography as being more rote-work. Advocates a series of school

maps, beginning with the map of the locality, as in the German system, 585-92. The instruction should deal with a knowledge of the surrounding country rather

ARTICLE II. GEOGRAPHY—continued.

than with names of remote places. Information concerning the latter could be gained from reading books. It is not an obligatory subject in England, 684-7.

HAMILTON.

Would omit grammar if any compulsory subject were to be struck off—analysis of sentences and grammar in third class, 363-6.

PURSER.

Would omit grammar, which should be connected with reading, and which is not obligatory in England,

GEOGRAPHY—continued.

STROUSE.

The pupils ought to be taught to read the map of their own locality. Advanced geography could be taught from reading-books, 1066-8.

GRAMMAR.

673-7. Education would not suffer by making it optional, 151-6.

STROUSE.

Boys should be taught to write and speak correctly, not to analyse sentences, and to know the occurrence of grammar, 973-5. Grammar, as taught, does not lead to correct speaking, 1069-72.

HANDICRAFT.

HAMILTON.

Handicraft does not enter into the programme for promotion of teachers, 155. The certificate to teach it is given partly on a written examination, partly on a practical one, by an expert, 356-67, who is an Assistant Surveyor of Buildings under the Board of Works, 373-80.

STROUSE.

It is more carpentry with nothing educational in it, and is quite unlike educationalloyd, 889-91.

PURSER.

In Kildare-place Training College and its sister schools, handicraft is compulsory for male students. It is chiefly a course of carpentry taught by a carpenter in both College and school, 741-2. It consists of a little sawing, planing, and joinery, without any relation to drawing. Handicraft, kindergarten, and practical work in the laboratory should be compulsory in Training Colleges, 761-73. It is taken up in fifth and sixth classes, but could with advantage be introduced in fourth class. An age limit would be better than a class limit, 797. Handicraft is not taught extensively, because of the inability of the teacher to teach it, and the expense of procuring materials, 798-800. A special instructor in handicraft can be obtained, just as a workmistress to teach sewing, but the latter is paid a fixed salary, whereas the instructor would have to depend on results fees alone, there should be no difficulty in earning reasonable fees on one year's instruction, 801-3. The present course is without system, 804; the accuracy of the measurements in working is not tested, 810-11. Approves of a course of clay-modelling, cardboard-cutting, paper-folding, and wire-working, 812.

JOYCE.

In 1863 handicraft was introduced into the Marlborough-street Training College. A carpenter was appointed as teacher who taught it for an hour per day. The Commissioners provided the tools and materials, and the pupils without exception were taught sawing, planing, driving nails, screws, etc. The object of the instruction was to train the teachers. The handicraft Programme for Training Colleges was then drawn up by witness without any previous experience or knowledge.

In 1885 the Commissioners introduced the subject into the schools as an extra, that is a subject, to teach which the master should have a certificate. The results fee was 5s. The Programme for the schools was also drawn by witness, being a two years course, 3643-F. A

handicraft class for Fifth and Sixth Classes was then opened in one of the Practising Schools of the Central Model School, Marlborough-street. The tools were supplied free by the Commissioners, and the pupils, whose attendance was entirely optional, got the materials at cost price. The pupils, in number 70, were taken in two divisions, each division getting two lessons a week, each of an hour's duration. At first time out of ten had no idea of estimating length. They worked at making boxes, picture-frames, brackets, etc., 2650-1.

The subject was popular with the boys, but the Programme was too extensive and too detailed, 2650-9. Drawing is a feature only of the Programme for Training Colleges. It should form part of any manual instruction in wood, 2660-1. The subject should be introduced into all the Model Schools, 2662.

In Marlborough-street Training College, with about 100 Queen's Scholars yearly, since the subject was introduced, an average of 30 entered for the yearly examination, and an average of 19 passed.

In 1895 it was taught in fifteen schools in all Ireland, 2663-7. It is not at present a popular subject with the teachers, 2668-70. The initial cost for tools and materials would come to £1 per pupil, and a separate building would be necessary except in the case of a small class, which might be taken after school-hours in the ordinary school-room, 2671-2.

The Programme should be assimilated to that of the London School Board, 2680-2. Would make the subject compulsory in every Training College, 2683-4. That educational function, which is the distinctive feature ofloyd, was not adverted to in the drawing up of the present handicraft Programme, the object of which is to teach trade operations, 2685-9. The Fourth Annual Report of the Commissioners in 1887 stated their intention to establish in Marlborough-street a department for scientific instruction, bearing upon husbandry and handicraft, and continued—"Our object is not to teach trades, but to facilitate the learning of them by explaining the principles upon which they depend, and habituating young persons to expertise in the use of their hands." 2690-2.

The educational aspect should be kept to the front, 2693-8.loyd cultivates a sense of personal responsibility by insisting on the work of each pupil being the production of the individual solely. This principle is ignored in such work as the construction of the relief map of Ireland, 25 feet long, executed in the Marlborough-street Central Model Schools in 1887, and which is now in the Museum at Kildare-street, 2699-108.

ITINERANT DAIRY INSTRUCTION.

CARRICK.

There are three female itinerant dairy instructors, who were trained at the Albert Institute, Glenties, 1867, 1878-81. Their number could with advantage be increased to fifty, as the instruction is growing in popularity, 1883. Describes the system on which they work. Instances cases where the price of butter has increased as a result of their instruction, 1868-70.

The pupils cannot at present perform the processes described by the lectures owing to want of time, and want of funds for the necessary apparatus, 1871. The classes are sometimes held in farm-buildings, and are attended by farmers' wives and daughters, 1883-4. When held in school-rooms they are also attended by the girls of Classes 5 and 6, 1885-7. The girls go home after school and return for these classes, which

INHERENT DAIRY INSTRUCTION—continued.

must be held after school-hours, 1888-9. The instructors, in addition, visit and advise the farmers on the subject, 1890. Local committees are established to co-operate with them. Instances some remarkable

INHERENT DAIRY INSTRUCTION—continued.

results. Considers such a system of instruction within the scope of a Primary Education Board, 1891-4.

APPENDIX E.
L

KINDERGARTEN.

DRAWING.

Considers kindergarten the basis of manual instruction. Kindergarten was introduced into the schools in 1883. A results fee of 2s. is allowed for it. Gives educative sums of kindergarten. In the Female Training Colleges the teachers undergo a course of training in it, and two organizing mistresses are employed by the Board to introduce it in the schools where application is made, 323-7.

In 1895 it was taught in 322 schools to 37,160 children, as against 276 schools, with 30,437, in 1891, and the results fees given increased from £2,350 to £3,140, 328-409. There are over 7,000 schools having infant pupils not getting kindergarten instruction. 322 schools, having 57,500 pupils receiving kindergarten instruction, gives an average of 115 pupils to each school. These are for the most part large Convent schools, 401-13.

Attributes its non-extension to the fact that the teachers are not competent to teach it, and that in the small schools, which are very numerous, a single mistress could not find time for it, 414.

Kindergarten fees cannot be paid unless there is an organized Infant Department; and the expense of providing the materials falls on the teacher. There cannot be an infant department where there is only one teacher, that is, where the average is below 70, and a separate room is also required, 427-36.

An Infant Department consists of the infant class, the next or 1st class, the 2nd class, and the 3rd class—not all infants necessarily. Of the infant class alone there were in 1895, 128,273, which, less 37,160, leaves 91,113 infants not receiving kindergarten instruction. Adding to these, those in 1st and 2nd class, namely, 81,367 and 84,736, makes a total of 258,116 who ought to be receiving kindergarten instruction but are not. Some features of it could be introduced in every school, 415-6. Describes the first four "gifts" of kindergarten, 417-9. In its integrity it could not be introduced into all schools, but these could and should be a modification of it introduced. If introduced, the infant children would have simple employment, working at the occupation, instead of going to sleep, as at present, over the never ending reading instruction, 420-6.

The number of Queen's Scholars who obtained certificates in kindergarten in 1895 was 63; in 1894, 45; and in 1893, 54. The total number of female Queen's Scholars examined in 1895 was 197, 437-41. The equipment for kindergarten instruction is also expensive and must be defrayed by the teacher. In the Convents this expense is borne by the nuns; in the Model schools alone by the Commissioners, 443-9. Describes the equipment which, for a school of 100 pupils, would cost £100, 450-3. Would approve of a modification which would permit of its being taught in ordinary school-rooms, 455-6. Considers that the Reports of the Inspectors furnish copious opinions as to the educational benefits of kindergarten instruction, but does not think any information on the point could be gained by an inspection of the results papers, or the percentages of passes obtained under the results system, as a test of intelligence, are not worth the paper they are written on, 457-68. Instances popularity of kindergarten schools at Derry. It cultivates the faculty of observation and the natural desire for activity existing in children, 469-73. Drawing and design as taught in the kindergarten course, are an excellent introduction to these subjects, 474-5. The system is adopted extensively in the Belfast schools, 476-89.

PUZZLE.

Kindergarten drawing is taught in the infants' school, but on entering the senior school the pupils

do not take up drawing until third class, which means a break of two or three years, 548-5.

Kindergarten is taught in one-twelfth of the schools. The instruction is too mechanical, and the teachers must be taught it more intelligently in the Training Colleges, 713-20. A modified course ought also be introduced into the Practising schools attached to Male Training Colleges, the expense of which would not exceed £5, which would be provided from the College funds, 743-50. The present programme is too mechanical, 774-6; and the course should not be confined to the lower classes, but graduated to suit the entire curriculum, 832.

STENOGR.

Its educational effect is entirely lost, because of its being dropped just when it commences to be useful. As forming an introduction to Shorthand, it would be of great value, 897-903.

COOKS.

In kindergarten drawing in the schools both tablets and copies should be used. Coloured chalk is only permitted in Third Class, whereas it should be put into the infant's hand from the beginning, 1896; and drawing should also commence in the infant class, 1923-5.

MISS KENNY.

As a rule it is only in the large Convent schools it is taught educationally, 2384, 2436-7. Describes the various exercises in the first year's course and their educational advantages, 2485-300. Finds that the teachers largely teach it mechanically, merely for results fees; and the inspectors examine sympathetically, without having studied it thoroughly, 2501-10. An obstacle to its more general adoption is that the teacher or messenger must provide both equipment and materials, while only 2s. per head is awarded as the results fee, 2511-3. It should be a compulsory subject in the schools and Training Colleges, and the fee should be doubled, 2514-5. Many teachers imagine it is merely a means of arousing the children and keeping them from going to sleep, 2518-22, 2424-30. In all the Model schools the equipment is paid for out of the public funds, a provision which should be extended to all National schools, 2532-49, and would lead to its being cordially taken up, 2449-50. For a small school with fifty pupils, this expense would be £5 or £6; in the large Convent schools, with about 300 pupils, it would cost about £30 to £40. Another obstacle to its extension is the condition imposed that there must be an Infant Department with a separate principal and assistant teacher, which is only possible in town schools, 2541-8, 2582-4. A great deal of kindergarten-work could be taught without the costly equipment of special desks, etc., 2617-20. The work-mistresses who teach needlework in small country schools, might, if properly trained, undertake the kindergarten, 2421-3, 2442-3. It would be desirable to have a modified kindergarten programme which would enable it to be introduced into the small schools, for kindergarten is the ground-work of manual and practical training, 2549-53. Would prefer its being taught in the general classroom rather than in a separate room, as it should be looked on as an integral portion of the ordinary curriculum, 2559-61. But it would in any event necessitate there being two teachers, which, under the present rules, would require an average attendance of over seventy pupils, 2563-5. The present fee would suffice if the equipment was found, 2567-78.

In 1895 kindergarten instruction was given in 322 schools, and out of 37,160 children 36,123 passed, the results fees being £3,613 4s., 2578. Would extend the kindergarten instruction beyond the Third

APPENDIX E. KINDERGARTEN—continued.

Class and introduce a modified programme for boys, 3386-80. Is of opinion, from experience, that many students leave the Female Training College quite ignorant of kindergarten, 2391-6. The system of examination should ascertain the training the children receive, and not their mere mechanical proficiency, 3397-400. There are but two kindergarten organisms for all Ireland, 2431-4. Would not advocate its introduction into schools exclusively under male teachers, 2438-41. Explains educational advantages of kindergarten in quickening the faculty of observation in children, giving a facility to express ideas in language, getting infants into the habit of going to school, and accustoming them to discipline, 2456-75, 2484-9.

From experience, finds that kindergarten-singing is generally taught by ear. Does not know the Sol Fa system, but agrees that it is impossible to teach children the theory of music on the Hullah system, 2523-30. Clay-modelling is a portion of the kindergarten-work for Third Class. Has seen it taught in the Derry Model school and in some Convent schools, 2507-11.

JORG.

Gives educational objects of kindergarten training, and examples of exercises used, 2741-8. Accuracy of work should be strictly required, 2749. Kindergarten is the introduction to Manual Instruction and should commence with infants from three upwards. It is a substitute for that training which the children of the wealthier classes get in their homes, 2750-65. Froebel taught it to children until six years of age, and nothing else, then he took up reading, writing, and arithmetic. We teach it concurrently with these subjects, but only in the infant schools. It should be taught in all schools up to third class, 2765-72, 2788-803. Object lessons should form a most essential part of kindergarten, and should be continued to the highest class, 2811-2.

MISS DART.

Baggot-street Training College, a college for female teachers and candidate teachers, contains 155 Queen's Scholars, of whom 58 are candidates. The kindergarten classes are held twice a week, one day for instruction, the other for demonstration in the practicing schools. The first year's students get no practical work. Examines the students and awards them a certificate in the subject, 2856-68. In infant schools the kindergarten teacher should make the instruction in reading, writing, and arithmetic periods of the nature of object lessons. Gives examples, 2863-70. Later on the kindergarten becomes a basis for technical training, e.g., in paper-folding, net-weaving, &c., 2871-3. There should be an initial grant to enable the teacher to start the

KINDERGARTEN—continued.

kindergarten, 2875. In country schools where there is but one teacher and a work-mistress, the latter could, if trained, give kindergarten instruction, 2876-9. The teachers, when trained, quite appreciate the value of the subject, 2880-2. In Baggot-street College, twenty-eight second year's students are taking it as an optional subject and fifty-eight first year's students who have entered under the revised programme, which makes it compulsory, 2887-8. The college is in existence about fourteen years, and the first professor in kindergarten was selected from the Notre Dame College, Liverpool, 2889-93. The drawing taught in kindergarten should be continued in the higher classes and not dropped as at present for a whole year. The cutting-out exercises should also be preparatory to the cutting out of garments in the higher classes, 2894-9. By the use of crayons the sense of colour is developed, 2900. The rule by which a fee is not paid for kindergarten unless there is an organized infant department should be modified, so that a second teacher, or a monitor if capable, might be permitted to give kindergarten instruction, 2908-9. The lesson should last twenty minutes, and there should be two lessons with a break between, in the day, 2912-4. Three hundred children receive kindergarten instruction in the infant school attached to Baggot-street, 2915-21. A separate room is not indispensable, 2922, but as singing should form part of the instruction, it is desirable, 2923-5. Singing forms part of the musical drill in the infant department in Baggot-street. The tonic solids is preferred to the Hullah system and can be taught to infants. In this way they learn to sing on scientific basis, and later on the notation system can supersede the hand signs, 2926-35. Herberts kindergarten did not count towards a teacher's classification. Under the revised programme if candidates now secure 30 per cent. in kindergarten, it counts towards their classification mark, yet the old provision is maintained that they will not get a certificate to teach it unless they score 60 per cent. in it. They should be allowed to teach it on obtaining 20 per cent., as in the case of the ordinary subjects of classification, 2936-49. Advocates the appointment of specialist examiners in kindergarten, and that the examination be directed to ascertaining the teacher's method, rather than, as under the results system, the proficiency of the infants individually, 2953-64. Children must leave the infant school at a certain age, which is generally expedient before they reach third class. So that for the majority the educational influence of kindergarten training is terminated abruptly at that point, 2965-6. In 1895 15,000 boys and 21,000 girls were examined in kindergarten. In second class 1,533 boys and 1,527 girls were examined in kindergarten, 2968-70.

MANUAL INSTRUCTION.

HAMILTON.

Handicraft is a form of manual instruction, which some of the teachers can teach. In the small schools having but one teacher, the compulsory programme is rather exacting, and if handicraft were made compulsory, some subject should be dropped or the school-hours must be extended, 347-55. The introduction of manual instruction would cause the other subjects to deteriorate unless the school-hours were extended. If introduced, instruction should be given more frequently than once or twice a week. Some portion of the present compulsory course might be omitted. The teaching of grammar is least useful. Analysis of sentences and grammar for third class might be omitted, 381-8.

DOWNS.

Considers Kindergarten the basis of Manual Instruction. Enumerates the varieties of Manual Instruction taught, to some degree, in the schools; also certain subjects a knowledge of which must precede instruction in these, 390-2. Puts in tabular statement showing number of schools in which each kind of Manual Instruction was given, the number of

pupils examined, and the amount paid in results fees in 1891-93, 392.

FERRIS.

Its introduction would necessitate the omission of some subject and the extension of the school hours. Would omit grammar, which should be taught in connection with reading, and is not obligatory in England, 673-7. Education would not suffer by making both grammar and geography optional subjects, 751-4.

STROUSE.

To introduce Manual Instruction, the compulsory programme should be reduced. Would not approve of the elimination of grammar and geography, but would allow the infants and lower classes to go away at one o'clock, which would leave one to three o'clock free for the senior classes, 909-63. The objections to the industrial scheme, that it was teaching trade operations, would not apply to a system of educational manual training, 1075-7. Would approve of provision for Manual Instruction, and that drawing should be continuous throughout the course, as a hand and eye training, 1083.

MUNSTER DAIRY SCHOOL.

CARROLL.

Gives attendances in certain years between 1881 and 1895. The main function of the school is instruction in dairying for young women, 1104-5. There is no provision for instruction of school teachers, 1353. The school should be reconstructed for this purpose, 1163. It was a complete failure up to 1880, when he was appointed superintendent, and a Local Committee was formed. Attributes the present success to the increased appreciation of its teaching by the country, and to the supervision by the Ladies' Committee. Previous to the formation of the Local Committee, the National Board, under pressure from the Treasury, had resolved to abandon the school, 1325-33. A great number of similar Model Schools were abandoned under pressure from the Treasury. Money was given to have some of the buildings taken off the hands of the

Commissioners. The loss to the country was £100,000, if not more, 1337-45. Four or five principal agricultural schools and a number of minor ones were not given up from 1870 to 1881, 1346-53. If their management had been transferred to Local Committees they would have been successful, 1355-61. Believes local management is essential to the development of agricultural education in Ireland, 1362-71. Agrees with Dr. Bellivan's opinion as quoted, as to the cause of these failures. The Munster School cannot be a successful agricultural school while giving to the dairy department its present prominence, 1376-7. To provide for male and female students would necessitate a separate building. The Governors have applied for a grant to enable them to acquire separate lands for the purpose of teaching agriculture adequately, 1156-8, 1378-9. This is very necessary for the success of the school, 1380-2.

NEEDLEWORK.

HAMILTON.

In future, needlework will be a compulsory subject for all female teachers seeking classification or promotion. Hitherto the teachers were obliged to enter for examination in it, but the marks were not reckoned in the total for their classification, 158.

MISS FRIENDENST.

Needlework commences in second class, 1860. Workmistresses to teach needlework are appointed in schools taught by a master only, when there is no female assistant and where there is an average attendance of twenty girls, it is discretionary with the manager to employ one, 1893-7, 2155-60. If there is an average attendance of ten or twelve girls under a master, there is no needlework taught. An application for a workmistress to teach in two schools, having together upwards of twenty girls, seems reasonable, though actually refused. Workmistresses, though for the most part ex-commissioners who are classed as teachers and waiting for a school, teach nothing but needlework. They could take charge of the literary teaching of the infants, 2033-45. Dressmaking is often taken up too early. It should be relegated to evening schools, 2048-51. Five hours a week is not too much for needlework. If two of these hours were taken for drawing it would give proficiency in cutting out, &c., but would retard proficiency in actual skill with the needle, 2061-2. The inspectors inspect the needlework. They do so as a rule intelligently. A staff of women inspectors would be more perfect, but that would involve large expenditure, 2070-8. Occasionally has met girls who were taught exclusively by a master until 5th class. Sometimes a special

teacher of needlework is employed by local aid, 2101-4. The needlework programme for schools needs revision. In the programme for Queen's Scholars it will henceforth be a subject counting towards the classification of the female students, 2108-9. Advocates rudiments of needlework for boys in kindergarten work, 2131-8. The mistresses and teachers are often unskilled and incompetent, and the schools suffer correspondingly, 2115-31. On the whole the Government schools do the best work, although the nuns are not certificated teachers, 2351-43.

MISS KENT.

Owing to the children having to supply the materials, twenty or forty children may often be seen sitting doing nothing during the hour for needlework. The parents are in many places too poor to supply the materials, 2350-8. The London School Board provides the materials free. The programme for Class IV. would require about 1s. 6d. per year for materials. In a number of cases it is almost impossible to get the children to bring the materials for the plain pinwork which they must exhibit at the examination in Class IV. Frequently the teacher has to provide them. The sum very often do so. The fee for a pin is 2s., 2383-90, 2597-801. Skilled experts should be appointed to go round to certain centres and instruct the teachers and pupils, and the inspection should be by skilled females, 2607-9. Does not consider one hour per day as needlework excessive for the school life of a child. Does not know what the average time in other countries is, 2410-15. The difficulty of the expense of providing materials also applies to drawing, kindergarten, writing, &c., which, when put together, is very considerable, 2625-6.

POULTRY MANAGEMENT.

CARROLL.

Is taught as an extra branch; has not made much progress in consequence of the difficulty of getting appliances and providing accommodation. An in-

crease of the fees in dairying, poultry and bee-keeping would be desirable, 1576. In three schools bee-keeping is taught, but will be increased by recognition as an extra subject, 1577.

RESULTS FEES SYSTEM.

HAMILTON.

The pupils who have made 100 attendances during the school year are examined by the inspector. He takes them individually and assigns a mark in each subject, being No. 1 pass, which is 90 per cent., or No. 2 pass, which is 60 per cent., or 0 for failure. He forwards the returns to the Education Office, where the proportional payments to the respective teachers are determined. The principal teacher gets twice as much as each assistant, 130-4, 330-3. The fee is identical for No. 1 pass and No. 2 pass. The only use of the higher pass is to index efficiency of teaching, 334-48. The results fees bear a proportion of $\frac{1}{2}$ to the teacher's income, 218-2.

BRONCKE.

Is certain that no manual or practical instruction can be introduced into the curriculum without a

reform of the results fees system, a reform which would itself be a decided advantage, 900-3. It contributes to promote the opposite to sound education, it does not develop the intelligence of the children at all, but is purely mechanical in its way of working, 970-2. The objections to the system spring from the method of teaching fostered by payment on individual children. Would advocate payment on average attendance, a general class examination, and inspection, as practised in England. With thorough inspection, the efficiency of the teachers would be adequately sustained. The teachers should, moreover, be given a modified freedom of classification as regards the pupils, 1064-65. The method on which the teacher works, and not the actual results, should be the principal criterion for awarding payments, 1087-108.

APPENDIX B. RESULTS FREE SYSTEM—continued.

DARTMOUTH.

The evidence of the marking papers of the inspectors under the results free system, as a test of the intelligence of the pupils, is not worth the paper it is written on, 448.

JOICE.

The results system consists in examining each child in each subject, giving him a mark, and for that mark giving the teacher a certain payment. It was intro-

RESULTS FREE SYSTEM—continued.

duced twenty-five years ago, and was preceded by examination by class. At first it improved the attendance, and pulled up negligent teachers. Condems the system as injurious to the exercise of intelligence. Gives instances. No reformation can be made in the National system, either literary or manual, until the results system is abolished, 3734-40, 2785-8. In England, the Teachers' Union recommended its abolition, and it was abolished for these defects, 3789. Would advocate abolition of individual examination entirely, 2804-10, 2815-26.

SCHOOLS.

HAMILTON.

National schools, both those vested in the Commissioners or trustees, and non-vested schools, are under the control of patrons and managers. In 1885 there were 9,089 schools on the roll, of which 8,557 were in operation; of these, 2,610 are vested in trustees, and 1,642 in the Commissioners. There are 30 Model schools, 7-16. Specifies building grant, loans for building teachers' residences, and other aids given—some to vested, and others to non-vested

schools, 17-37. The Commissioners extend aid to non-vested schools, provided they have an average attendance of, at least, 20, and comply with other prescribed conditions, 38-41. Gives classes of Model schools and number of schools in each class, 42-3. Explains the appointment and duties of managers and patrons of schools, 44-63, and the steps to be taken by a manager to have a school recognised, 64-6, also the managerial organization of Model schools, 70-82.

SCHOOL FARMS.

HAMILTON.

In 1886 there were 47 school farms and 82 school gardens. The largest farm is Cornewin, in Monaghan, being 48 acres, the smallest is LA. TR. 199. Ten have less than 5 acres; all the rest are above that, 84-93.

CARDIFF.

In examiner and inspector of the school farms, for which he receives the salary of a district inspector, with no prospect of advancement, 1205, 1438-41. A school farm is an ordinary school to which a farm is attached, on which the boys of fourth, fifth, and sixth classes get practical instruction in agriculture, and live stock of various kinds are kept, 1486-7. The land belongs to the teacher, who gets results fees only. The Commissioners have no proprietary right in it whatever, and it is farmed on educational principles, 1283. The fees were originally less than those given for text-book knowledge, but are now the same, 1488, 1544, and the literary side of the school is the same as in ordinary schools, 1489-90. It differs from a school garden in size and manner of cultivation, 1496-8. Gives nature of inquiry instituted by the Commissioners before taking a school farm into connection, 1512-5. There are forty-seven school farms, 1502. In theory of agriculture the examination is the same as that in ordinary schools, in practical work, examines the pupils on the ground, and also examines the farm for fees attached to its management. In practical work, the passes average 90 per cent, 1507-71, 1547-8. Describes system of industrial classes existing in thirty-nine of the school farms, in which the pupils get 2d. per hour for the three hours per week given to the work. Advocates further extension of these classes, 1504, 1527-8. The profits of the farm go to the schoolmaster, who pays all rent and expenses, 1506-7, 1529-36. The largest number of school farms at any time was 120. In 1880 there were ninety-one, many of which were struck off owing to inefficiency, 1573-7. Considers

Mr. Dowling's Report, who writes—"The possession of farms by teachers is one of the bones of education," 1287, applies only to farms of considerable extent, 1299. Their size differs considerably. The Commissioners require at least 3 acres; consider 6 acres quite sufficient; to the Royal Agricultural College, Copenhagen, 10 acres only are attached, 1578-82, 1586. It is difficult to get a schoolmaster competent to give agricultural instruction, but not impossible, 1283-5, and from experience would advocate maintenance of these farms, 1286, 1438. The management of school farms has improved with the giving of discretionary powers to the masters in the system of farming, and with the increase of results fees, 1439-42. Their extension throughout the country is desirable, 1572. The collection by the pupils of grasses, roots, and bones for school museums is desirable, 1443-4, as is also the introduction of experimental agriculture, 1453-8. To cultivate the farm scientifically the teacher should own it. There is, however, great difficulty in acquiring land, 1451-2, 1558-9.

The Bill introduced, to extend powers for acquiring sites for teachers' residences, from $\frac{1}{2}$ acre to 1 acre, would promote the study of gardening. If extended to 5 acres, school farms could be provided, 1562-3. If the Commissioners could provide the farms, the quality of the work would be under their control. The present arrangement, however, avoiding of pieces where the teachers have farms, will be adequate, by having such farms in equidistant areas. The Commissioners have recently given permission to have portions of the playground cultivated for flowers and vegetables, this would suffice for ordinary schools, 1446-59. The ordinary master should teach the pupils, but itinerant instructors might be employed to teach the schoolmasters, 1480-1; and could also act as inspectors, 1485. There were three agricultural inspectors up to 1880. Would recommend their re-appointment as itinerant instructors, 1432-6.

SCHOOL GARDENS.

PUSHER.

In the school gardens the instruction given is practical. The ordinary inspectors examine these gardens. Would prefer specially qualified inspectors, 736-40.

BIRMINGHAM.

The school gardens vary in size from half a rood to a rood, and are cultivated by the teacher, and examined by the inspector each year. The boys spend their recreation half-hour every day in the garden, with the teacher. They are not taught enough to

make them gardeners, but to make them intelligent garden labourers, 882-8. The examination, conducted by the inspector, is a practical one, and the pupils show a practical knowledge of the subject, 919-25. There is not, however, any scientific experimental instruction given, 934-8. The text-book used is that used for the ordinary agricultural classes, 964-7. The difference between, and value of, different kinds of manure is not taught; nevertheless, the instruction is educative—particularly in the South and West of Ireland where the people keep no gardens, 992-1006. In 1885 there were only forty-three school gardens under the Board, 1004-5.

SCHOOL GARDENS—continued.

CARROLL.

Their number has increased from nineteen in 1880 to eight-two, 1897.

All examined by the Inspectors, 1899, who, as a rule, examine both pupils and gardens intelligently. Has suggested that practical gardeners should be engaged to give instruction, which would improve pupils, teachers, and inspectors, 1464-5, 1436. A variety of vegetables are grown in the gardens. A manager making application to have a garden

SCHOOL GARDENS—continued.

taken into connection is required to enumerate these. Gives list of questions the inspector is required to fill up in furnishing his annual report, 1460. The pupils from fourth class upwards work in the gardens for half an hour, either in playtime or after school hours, 1435-6. For the present they should be examined by a practical examiner as the inspectors require training, 1435. The minimum size is 1 rood. Approves of the inspector making more than one visit in the year to inspect the gardens, 1482-4.

APPENDIX E.

HAMILTON.

The school hours for secular instruction are four, which include half an hour for play, on five days in the week, 105-8. They are from 10 to 2 p.m., and the

SCHOOL HOURS.

attendance roll is marked at 11 o'clock, 289-96, 301-2. Would be asked to propose that the Roll should be called and marked at 10 o'clock, 305-6.

SINGING.

MISS KERRY.

From experience, finds that kindergarten-singing is, as a rule, taught by ear. Does not know the Sol-fa system, but agrees it is impossible to teach children theory of music on the Hullah system, 2329-30.

MISS DALY.

Singing forms portion of the musical drill in the infant department in Baginboddystreet. The Tonic Sol-fa is more suitable than the Hullah system, and can be taught to infants. They learn to sing on scientific lines, and later, the notation system can supplement the hand signs, 2926-35.

GOODMAN.

Children of six years old can learn elementary Tonic Sol-fa with ease and pleasure. It teaches them to read music, and quickens their observation. At present, children only of the second class are taught. The instruction should begin for infants in the first year, as is the case in England, 3058-80. The whole of the Tonic Sol-fa consists in teaching the musical intervals, the scale and transition. The knowledge of things precedes scientific generalisations. It is taught in England to four million children; and scientific testimony and the experience of teachers are in favour of its adoption.

SPECIAL INDUSTRIAL DEPARTMENTS.

HAMILTON.

In fifty-three Convent schools, there is a special industrial department taking embroidery, weaving, &c., and having a class of externs as well as pupils, who have passed sixth class, 95-6.

MISS FREDERICKSON.

Consist of the ex-sixth class pupils, the ministrants, and extern girls, under a special married teacher. They are generally found in country towns where there are no factories. They exist principally in Convent schools, but there are a few in ordinary schools, and one in the Central Model School. Dress-making is taught, making fine underclothing, shirts, vestment making, Mountbelleck embroidery, &c., 1160-93. Names the eight Convent schools having weaving departments. The work is principally hand-loom weaving of linen and pocket-handkerchiefs. The manager supplies the materials, sells the work, and gives the girls a wage, by the piece or by the hour. When there is a weaver he receives a salary and receives fees from the Board. A girl is paid when she is

capable of weaving saleable linen. There is no difficulty about selling the produce, 3001-15. The industry is increasing. The Commissioners require about seven looms to start with, which cost £4 to £6 each; also a warping mill, and wheels for winding, 3030-2. A great deal of the best lace made in Ireland is made in industrial departments, 2947. In the two Kilkenny Convent schools having industrial departments, the nuns purchased the machinery. One has fourteen, the other twelve, looms in operation. The Convents have contracts for clothing, sheeting, and travelling from the District Lunatic Asylum and Workhouse. The National Board give the services of a weaver, pay him fees, and £1 per week salary. In one school a nun acts as a weaver, but gets no salary, 2087-100. The bulk of the work is done by ex-pupils. The pupils from the school come merely to learn, and join as they wish or not afterwards, 2110-3. The weaving departments are self-supporting, 2114-7. Gives particulars of the art embroidery in gold and silver lace taught in the Central Model School, Marlborough-street, 2192-211.

TEACHERS, APPOINTMENT AND INCOME OF.

HAMILTON.

Gives particulars concerning appointment of teachers, classes into which they are divided, and manner of their promotion. In schools having under thirty pupils, third-class salary is the maximum, whatever be the classification of the teacher; between thirty and thirty-five pupils, second-class salary, and over thirty-five, first-class, 131-41. Names the five Training Colleges, in these the course is two years for ordinary students, and one year for teachers already in charge of schools. As the capacity of the Colleges is not adequate to the demand for teachers, training is not compulsory, 143-52. The curriculum for the Training Colleges is determined by the programme for promotion of teachers. In future, drawing will be a compulsory subject for all teachers seeking promotion, and needlework—which hitherto did not count for classification—will be compulsory for female teachers, 153-61. Training at one of the Training Colleges is necessary for promotion to first class, since 1897, 162-8. In order to pass the general classification, the student must obtain 50 per cent. of the aggregate of obtainable marks, and not under 20 per

cent. in any particular subject, 175-8. The qualification for assistant and principal teacher is the same; but assistant teachers in ordinary schools receive only third-class salary, 180-4. In Model and Practising schools they get full class salary; exceptional supplementary salaries are also given to Model School teachers, 187-9. States sources of income of teachers, 228-33. There are two systems of paying teachers, by class salary and capitation. 263 Convent schools are paid by capitation, the average payment being £1 16s. per pupil. In twenty, the Nuns are classed teachers, the average payment being £2 1s. 6d. per pupil. In ordinary schools the average payment is £2 2s. 10d. per pupil, and in Model schools the average payment is £4 0s. 3d. Of the Monastery schools, three are paid by capitation, and thirty-seven by class salaries, 94, 334-42. For less than 80 per cent. of the possible passes Convent schools get a capitation grant of 10s. For 80 per cent. or over, the grant is 12s. Only the ordinary subjects are considered in calculating these averages, 249-54. No distinction is made between No. 1 pass and No. 2 pass in payment of the grant to Convent schools, 246-8.

II.

EVIDENCE TAKEN IN ENGLAND BETWEEN MARCH 18 AND APRIL 9, 1897.

[DIGEST OF VOL. II.]

APPENDIX B.

AGRICULTURE.

ARMISTEAD.

Among the "specific subjects" in the Code, this subject is the greatest offender and consists of learning the text-book by heart, 5763-5. If the scientific method were adopted, experimental science courses preliminary to agriculture could be framed to suit the requirements of different agricultural localities, 5766-6, 5834.

BOORMA.

Agriculture, according to the Code, has not been taught much in rural schools and has been of little use. During the last two years, school gardening has been recognised by the Code, and valuable experiments have been made both by County Councils and in schools. Describes an experiment made by him at Boscombe, Bournemouth, in establishing school gardens. No text-book is used, but the pupils keep a note-book comprising the results of their work from time to time. Prefers giving each boy a separate plot as affording an opportunity of seeing the progress made by the individual, to giving a common plot to a number of boys. One of the results of this work is the improved physical development of the boys. The time spent at the plots is recognised as portion of the school attendance. No lectures are given, only advice and supervision. At the end of the two years' course they will attend, with profit, lectures given by the Horticultural Instructor to the County Council. Instruction in elementary chemistry would be desirable. Approves of instruction on the lines of the French Scheme for Agriculture in rural schools. At present the difficulty is to get a teacher skilled in both gardening and science. These boys are in Standards 5, 6, and 7, 5174-96. As a "specific subject," agriculture is merely taught from books. Would never encourage work of that kind. It is taken largely in rural schools and was taught in London 5197-300. Approves of the "Instructions to Inspectors" on the subject of school gardening, 5303. The introduction of experiments on school gardening would form a suitable introduction to physical science, 5346-7. Gives further particulars as to the Boscombe school gardens, 5377-83.

DU PONT.

School gardening is not extensively taken up, 5439-40. The teaching of agriculture in rural schools according to the Code Syllabus is worth very little, and is very rare. Approves of the French Scheme for Agriculture, which together with horticulture and school gardening should be substituted for the teaching of agriculture, 5597-51.

HEAN GEMSON.

Agriculture should not be a compulsory subject in Irish schools. As taught under the Code it is merely a text-book knowledge. Advocates a course of experimental science leading up to agriculture. This might be combined with elementary botanical experiments, as compared in the French Scheme for Agriculture, 7552-60, 8202-3.

COURTNEY HODGSON.

When the Cumberland County Council first took up the work of practical education in 1891, the first subject to which the Council turned their attention was agriculture. Under a specialist they organised Saturday classes in centres for elementary school teachers, and paid portion of their railway fare and expenses. The classes were conducted under the Science and Art Syllabus, the work being purely the theory of agriculture. The subject was dropped after two years as it was felt that it was impossible that it could be beneficially taught without practical work, which the teachers were not qualified to give, 8654-7. Recently the County Council by the establishment of a school farm near Penrith, have endeavoured to conduct the teaching of agriculture in a more practical manner and in what they think really is the proper way, that is, to take the children after they have had their elementary school education, and not to endeavour to combine agricultural instruction with the elementary school education. Describes the class of pupils taken at the Newton Rigg School Farm, Penrith, 8658-62. Would reserve the teaching of agriculture for such institutions because the pupils of the elementary school leave too young to take up that subject with any educational profit, 8697-98. Gives further particulars as to the object of, and course of instruction in, the joint farm school, 8700-18. The elementary school teachers trained in the County Council's classes, although they had acquired a book knowledge of agriculture, knew nothing about practical work, which the boys whom they endeavoured to teach, were familiar with. Unless the school age can be raised to thirteen or fourteen, agriculture cannot be taught in elementary schools at all. If that were done the instruction should be given by peripatetic experts, and school plots should be provided for the schools. Even if these plots were supplied, the instruction should be limited to horticulture. As the school age now stands, it would be inadvisable to take from literary work any part of the meagre time they now have. Manual instruction would not be open to the same objections, as being of a more educational nature. The proper time to take up agriculture is subsequent to the elementary school course, when it should be taught in school farms, 8719-45, 8794-5, 8821-3. Gives particulars of admission to Newton Rigg Farm, 8755-7, and branches of instruction taken, 8775-8.

A course might be framed for teaching science underlying agriculture, as an elementary science course, 8779-80.

Under a scheme common to Durham, Northumberland, and Cumberland, instruction in the value of different sorts of manures, diseases of crops, &c., is carried out for farmers under Dr. Somerville, on twenty experimental plots throughout the county, 8781. Such experiments can also be carried out at the school farm, 8782-4. The teachers having received instruction at the County Council courses for teachers, and possessing gardens of their own, cannot be expected to give any agricultural instruction, as garden plants and garden tillage do not permit of it, 8785-83.

AGRICULTURE—continued.

In evening classes, instruction in agriculture is given to lads of fifteen and sixteen by peripatetic specialists, with success, 8739-896. Gives the ages and number of the pupils at the Newton Rigg Farm, 8824-8. Explains the nature of the Aspinall Agricultural College, 8847-8. Approves of a course of chemical and physical experiments related to agriculture, for the purpose of cultivating a mental attitude which will enable the pupils in after-life as farmers to modify their agricultural processes where necessary. Port experiments on the culture of legumes would also be valuable, 8849-58. Botanical collections, made by the children themselves, are of considerable value; but visits to neighbouring farms to illustrate agricultural teaching would be of no value unless the age of the children was of higher average. Horticulture could, however, be taught in small school plots, 8858-63, and object lessons in elementary science would be useful, 8874-6. Gives further particulars as to the Newton Rigg Farm, 8877-87.

SOMERVILLE.

Describes work done by the County Council under the scheme common to Durham, Northumberland, and Cumberland, in conducting scientific agricultural experiments for the benefit of the farmers, in the plots lent by them for the purpose, 8969-77, 9020-8, 9073-48, 9081-6, 9070-1. Gives particulars of the purchase by the Northumberland County Council of a farm of 400 acres for agricultural instruction, to be worked on the lines of the Penrith Farm, 8977-8. 9001-8. States the conditions on which local committees are entitled to obtain assistance from the County Council for horticultural instruction in model garden plots, 8979-82, 9030-1, also those on which they are entitled to apply for a course of agricultural lectures, 8984-5. Describes the scheme for forestry instruction, instituted in the Durham College of Science under the conjoint County Councils of Durham and Northumberland in 1895, 8996-94. Gives particulars of the forestry instruction carried out in Edinburgh Botanical Gardens, and subsidised by the Board of Works 9042-51. In Ireland there ought to be no difficulty in getting a similar institution, because it exists in Kew as well, 9072-8. Gives particulars of the regular course of agriculture in the Durham College of Science, 8999-7. Also of the migratory dairy schools in Northumberland, Durham, and Cumberland, 8999-9000. In this case, also, the local committee must send a request to the County Council for the school. Gives full particulars as to instruction, hours, &c. These courses are extremely popular; in Durham the average is two courses in every village per year, 9002-101. Considers that, as regards elementary schools, demonstration plots, where the teacher is efficient, would be valuable, also experimental demonstrations in flower pots, a system largely in use on the continent. Would approve of elementary science and chemistry leading to elementary botany; also the collecting of insects, fungi, &c., and object lessons, 9010-8. Disapproves of book-work alone, as a method of teaching agriculture, 9002-4. The utility of the school farms in Ireland must depend on the instructors. Instances use of plots for pupils established at Berard Castle secondary school, 9055-6, 9014. Considers that elementary science must go on hand in hand with this practical work, that the latter may be of any use. Scientific knowledge of water, air, solubility, practical zoology, &c., may be given without any garden attached. If the plot were used, supervision of the teacher by a peripatetic expert would be absolutely necessary, 9067-44.

BIRKENS.

School gardening is now being taken up under the Code. The tools supplied for the boys should be specially made to a suitable size, 9161.

AGRICULTURE—continued.

LAWRENCE.

The Technical Education Committee which exists in every parish, may make an application to the County Council for a course of lectures, naming the subjects preferred. Those on agriculture have been of great use in awakening an interest amongst the farmers. Used to teach elementary agriculture could be taught in the day schools, but is now of opinion that the best work in this direction in those schools would be object lessons on how plants grow, elementary botany, collections of grasses by the children, &c. In evening continuation classes, agriculture has not been a success, but the kindred subjects, measurement, elementary chemistry, &c., have a valuable indirect bearing on it. In evening classes under the Science and Art Department, of a more advanced character than the above, the same holds good; the allied sciences, botany, chemistry, animal physiology, turn out more valuable, 9244-52. Evidence the success of the migratory dairy school mentioned by Dr. Somerville, 9208-5. Gives particulars as to the Newton Rigg School Farm, experiments carried out, pupils, &c., 9256-63, 9384-7. Gives some particulars as to the farmers' experimental plots mentioned by Mr. Coatesway Hodgson and Dr. Somerville, 9304-6. If courses in simple object lessons, elementary botany, and elementary chemistry were substituted in the elementary schools for the teaching of agriculture, the teachers would be easily equipped for giving the instruction by attending lectures at the centres of the County Council. Such instruction might be given in Standards 3, 6 and 7, 9367-76.

PUSCHARD.

Is one of the Governors of the Newton Rigg Farm. Gives the arrangement existing between Cumberland and Westmorland County Councils as to its maintenance, 9388. Mentions the classes established for training school teachers in agriculture under the Science and Art Syllabus, 9390-1. Advocates appointment of peripatetic experts, 9392. Would substitute for the teaching of agriculture in elementary schools, courses of instruction in object lessons, elementary science, and botany, 9393-400.

GILKES.

When in 1890 money was available under the Customs and Excise Act for the purpose of technical education, Westmorland being an agricultural county, the County Council decided on giving courses of lectures on the principles of agriculture. Mentions the conditions on which localities could avail of this instruction, 9414. A large show was also started for school teachers, where they received lectures on the principles of agriculture. Describes arrangements made for payment of the teachers' travelling expenses, 9433-3. Hopes that farm servants will avail themselves of the lectures in agriculture, 9457-9. Gives particulars of courses of veterinary surgery given by peripatetic lecturers, 9444-7, 9500-6, 9523-6. To the courses of lectures on dairying the farmers' daughters come in numbers. Gives particulars and results of this instruction, 9447-51, which is, however, now discontinued, 9461-6, 9527-8. The Council also encourages ploughing matches and hedging and fence-walling competitions, 9452-3. Gives tenure on which the Council holds experimental plots, and particulars of agricultural experiments carried out, 9454-9, 9507-19. A few of the teachers trained in the class of the County Council take the subject in their schools; the expense of the apparatus for such instruction is not over £2 or £3, 9456-60, 9491-2. Peripatetic teachers of agricultural science are appointed to science and art classes attended principally by young men of the district, 9467-8. Would advocate instruction in agriculture in elementary schools by

APPENDIX E

II

APPENDIX B
II. AGRICULTURE—continued.

the ordinary masters, or by peripatetic instructors, 9479-5. Considers the preponderating need of the county in good agricultural instruction. Is very anxious to see the principles of agriculture taught to all boys and girls in the elementary schools. For this purpose the teachers and pupil teachers must get an intelligent knowledge of the subject, 9542-50. The County Council spends £960 out of £2,000 per annum on agricultural instruction. Instances advantage arising from attendance at the Council's classes in agriculture for elementary school teachers, 9551-5.

BATEMAN.

Would advocate instruction in agriculture by the school teachers, if they first received special laboratory course. There is no use teaching agriculture from books, 9551-2. Was instructor under the Council, of the classes in agriculture for school teachers. Found that they could make nothing of the subject unless they had a knowledge of chemistry, and accordingly they took the two subjects concurrently, 9563-5. Would advocate teaching agriculture in elementary schools to children in 5th Standard and upwards, provided it involved experimental work, 9566-9. The course given to the teachers comprises agriculture and chemistry. It should extend over three years, in order that they may be thoroughly equipped for performing experiments. Complains that at the training colleges laboratory work is neglected, and hence the teachers have to commence it when studying agriculture. The obtaining of the Science and Art Department's certificates in such subject is no test of a teacher's capabilities. A course in the practical schools would be some test of their ability to teach, 9519-40. Considers that agricultural instruction can be carried out in the schools up to the first stage of the Science and Art Department Syllabus. The teacher should illustrate the principles by practical experiments and object lessons drawn from the farms in the vicinity. The children should themselves make simple experiments. Elementary botany and geology should also be taught, and the children should make collections of insects and plants, 9541-53.

Describes the work done under his supervision on the experimental plots of the Westmorland County Council, 9565-9, 9559-67.

CHALKERS.

As a school teacher experienced great benefit from attending the laboratory classes mentioned by Mr. Bateman. The teachers who have attended three classes are well equipped for teaching agriculture, and are enabled to select subjects for object lessons, which they can illustrate intelligently without the constant fear that their experiments won't come off, 9556. To conduct agricultural classes, teachers should have a knowledge of elementary geology and botany, which would economize their attending science classes. In Kendal the teachers came in to Saturday classes to learn agricultural chemistry, 9526-703. They had a great advantage in having laboratory work. The course generally consisted of 96 attendances, extending over three winter sessions, 9761-74. Agriculture was introduced into the Training College in York in 1849 by Dr. Johnson, but was not successful. The teachers are afraid to teach it as the boys know more than they do of the practical work. They should confine themselves to agricultural chemistry &c. The expense of the apparatus is an obstacle to their taking up the subject, 9739-45, 9789-90, 9837-35. Would not advocate instruction in agriculture in schools taught only by a mistress; in the mixed schools taught only by masters, the girls take as equal interest in agricultural instruction with the boys, 9699-11. The object lessons taken in compliance with the Code must be—if agriculture be taken in the

AGRICULTURE—continued.

Standards—such object lessons in the lower as shall lead to the agricultural lessons in the upper part. Exhibits diagrams as used in the course of agricultural instruction taken in his school, illustrations of the object lessons in agriculture. Explains how experimental demonstrations should be made to the children, when the subject matter of the lecture admits, 9573-5. The effect of such teaching is that the children's intelligent interest increases in the advanced classes, 9577-7. Gives particulars of the Syllabus—being Course D of the alternative courses proposed in the Code—of object lessons leading to agriculture, taken in his school in Standards 2, 3 and 4, 9578-9. The text books are used subsequently by the children but not as an initial portion of the instruction, 9580-1. Allotments in the shape of school gardens, should be attached to elementary schools. These should be about 30 yards square, and could be divided into little plots for experiments, 9582-7. The boys should get practice at horticultural work rather than farm work. Would not favour school farms related to elementary schools at all, nor model farms, the utility of which does not enter into the work of elementary education. It would be a useful thing if there were compulsory power for acquiring plots of the nature mentioned, 9728-3, 9552-63. To teach agriculture without experiments is useless, 9588-9. His school is purely rural with an average of 98 pupils, taught by himself, an assistant master, and a sewing-mistress. If it were a smaller school with but one teacher it would not be easy to carry out this practical course, 9589-95. So far agriculture is taught only in about four schools in his district; expects it will be more widely taught, 9547-51. The cost of apparatus sufficient to carry out such a course of instruction would vary from 12s. 6d. to 25s., 30s., or £2 3s. Mentions the cost of the diagrams—for £2 3s., the diagrams would be included, 9718-21. Finds that the children make collections for themselves, which they should be taught to systematize. They might be taught to collect also insects and fungi. Pot culture, which is practised in his school, is also suitable. The more they can be got to interest themselves in these experiments the more likely they are to follow up the subject when older, 9736-38. All the object lessons may be, and are in his scheme, up to the end of Standard 3, connected with agriculture. Sometimes a little bit of local botany or geology is combined, 9745-50. Does not do any quantitative work in his course of experiments, found that it was too slow and tedious a process 9751-6, it took up too much of the school time and was also too costly, 9801-0. Confirms the use of the text book to Standards 5, 6 and 7. The course is not intended to make agriculturists, but to prepare the pupils for future study, 9757-60. Teaches this course as a "class subject" to boys and girls from Standard 2 upwards, 9773-83. In Standard 6 commences course in, which was formerly taught practically, 9791-5. Gives about 1½ hours to the teaching of agriculture in the week, being two lessons per week, 9799-890. Proposes to give agricultural instruction next year in a commutation school for lads who have left school, 9806-11, 9813-34. His course in agriculture was founded on the lines of the Code and worked out by him. Under the Code the subject may be arbitrarily taught from a text-book. Uses no text-book for the lower Standards; and only to a limited extent uses Buckmaster's, Wells or Freeman's in the higher Standards. Confirms exclusive use of text-books, 9854-74.

GLAISTONE.

"Course H" in elementary science could be modified so as to be an introduction to agricultural instruction, for the principles underlying it are not necessarily bound up with the particular science, 19044-8.

ART INSTRUCTION.

ARTIST'S E
II

EDWARD TAYLOR.

Suggests art instruction in elementary schools in brass repoussé work, paper work, plaster casting, art-needlework, lace-making, sampler-work. Drawing should be taken *passé passim* with all these. In Birmingham the practice of encouraging children to design from the commencement has resulted in the Birmingham School of Book Decoration. Describes the course for that purpose in the Birmingham School of Art, 3875-83. The power in children of inventing design is as common as the power to read. The earlier it is commenced the better, 3443-8. Foreigners experimenting the plaster-casting in the School of Art, 3469-71.

ROBINSON.

The system of cold-bent ironwork exercises in the metal centres in Birmingham, might lend itself to art instruction in manipulation, 3604-5.

DIGGLE.

Art instruction is not a branch of work which can be pressed universally. Where a boy shows a special aptitude for it he should be allowed to pursue it. Brass work, which is an experiment of fifteen months' trial, is successfully carried out at the Alma School, Whitechapel, 4784-9.

FRENCH.

Considers it desirable that the æsthetic side of drawing should be cultivated; also that the pupils' surroundings should be in such good taste as to cultivate the sense of beauty. In American schools they are introducing a great many exercises in colouring, 6617-24.

ELEANOR COCKE.

Drew up the Alternative Syllabus in the Science and Art Department's Syllabus of Drawing for Elementary Schools. Describes its characteristics. In it brass work enters very early, and the power to design is early cultivated. The decorative forms are early evolved and the use of colour introduced. The

Syllabus has been introduced with perfect success in the Alma School, Whitechapel, under Mr. Coward, which is the first attempt among the elementary schools to do this class of work. It especially cultivates a child's power to design, which declines or becomes atrophied, if not fostered in early youth. It also cultivates perception of things beautiful, 6836-76.

GULFON.

The art side of hand and eye work has not had much attention from the Liverpool School Board, 7096-7. Clay-modelling is now being taken up in the higher Standards, 7025.

HANCE.

Clay-modelling in Liverpool, where taken up in the higher grades, to artistic modelling, and is taken under the Science and Art Department, 7304-8.

FRANKON.

In the advanced clay-modelling taken in Standard 7, under the Liverpool School Board, the boys are given a latitude of choice as to the models, according to their ability. Considers it an enormous advantage to have the casting done, as it impresses the fact on the boy that what is produced is simply what he did. Compares clay-modelling to concrete freehand drawing, 7996.

BERNATA.

Repoussé work is the hammering-out in brass of art objects. It is successfully taught in the Keswick School, created by Canon Rawnsley. It would be unfitted to a day school, being industrial work, and on account of the noise, 9141-5.

HAWKESIDGE.

Would approve of increased art instruction. Considers that, for this purpose, freehand drawing should be related to hand and eye work, 10170-3.

COOKERY.

LESLIE STANLEY.

The system of peripatetic teachers has been adopted by the Northern Union for cookery; the managers of country schools sit together, and a teacher will go about to ten schools, 4486. In London, in the beginning the teachers objected to having their classes broken up to permit of the cookery classes. They now however consider the value of the instruction counterbalances the inconvenience, 4485.

DIGGLE.

In the evening continuation schools in London there are over 3,000 pupils receiving instruction in cookery, 4718-9.

DU FOY.

The teaching of cookery is very nearly universal under the London School Board. Considers it educationally an advantage, 5407-8. Cookery is paid for by the Education Department, at Standard 4, 5420-1. The subject is taken up in the Training College for females, 5474.

FREDERAL GRAVER.

When cookery had come in under the Joint Committee in London, he urged the teachers in his districts in Somerset to take it up. Describes how the teachers were trained in Taunton, Somerset, how they obtained certificates, and how the subject was generally taken

APPENDIX B. COOKERY—continued.

up there, §148-9. There is a tendency for the girls to remain longer at school in order to learn cookery. Urges the necessity of extending instruction in this subject in Ireland, §112-7.

MRS. HOGAN.

Is Chairman of the Sub-Committee on Domestic Subjects of the London School Board. Cookery, which was taken up by the Joint Committee, was recognised by the Education Department and subsequently adopted by the London School Board. There are 160 cookery centres under the Board. The grant of the Department for cookery is 4s. for each girl. She must make twenty hours of practical work in the twenty-two half days which constitute the course. Each lesson is two and a half to three hours long. The roll is not called for half an hour after commencing. The work commences in 4th Standard, but children over eleven and below Standard 4 may attend, §321-50. The introduction of the subject has been useful in encouraging girls to stay on a little longer at school. In cookery there are 21,000 children on the roll, and of these 18,409 were in actual attendance, which shows this branch of work to be very attractive to children. At the commencement the parents strongly objected, §157-61. As far as possible the children are taught to work with appliances such as they have at home, §162-3. A kitchenmaid is employed in the cookery centre to do the regular washing, which is beyond the strength of the children, §370-3. The School Board made a profit of £200 on the cookery materials last year, which went to reduce the maintenance, §373. The pupils make very careful notes of their work, but these are not revised by the ordinary class teachers, §391-3. Has received gratifying letters from the parents concerning the benefits of this instruction to their children, §416-7.

MRS. LOWN.

Teachers of cookery have a training extending over more than twelve months in cookery alone, and in addition they receive instruction in the art of teaching, and learn a certain amount of chemistry, §471-3, §482-3.

OULTON.

Under the Liverpool School Board 2,000 girls receive instruction in cookery. The centre system is that which the Board most generally adopts, §390-4. There is however an advantage in having a special cookery class-room in a school where there are sufficient girls to keep it going, §707-83.

HANCE.

Both the class and centre system are worked in Liverpool, §291-4.

MISS CAMBER.

Is Hon. Secretary of the National Union for the Technical Education of Women in Domestic Science. The Education Department gives a grant of 4s. a head for every girl in the 4th Standard and upwards taking forty hours' instruction in cookery in the year, twenty of which must be in practical work. Its advantages are that it keeps the girls longer at school, gives them a taste for domestic work, and improves their general intelligence. The system is being spread in country districts by itinerant teachers, who give weekly lessons. These country schools are supplied with apparatus out of their own resources, some of the smaller utensils being carried about by the instructors. The Education Department gives no money to supply utensils, §260-4. The training of teachers in cookery is carried on in various training schools of cookery in London, and throughout the country. There is also one in Dublin. These schools do not grant certificates but are joined in the National Union, a Council by which the certificates and diplomas are issued. For the Elementary school teacher's certificate there is a

COOKERY—continued.

special course, in accordance with the requirements of the Education Department; for those who desire the high class diploma, the course is more exacting, §367-40. For an artisan diploma of the National Union, a course of six to nine months must be taken out, fully twelve months for a diploma to teach high class cookery, working every day. This course comprises method of teaching, chemistry and elementary physiology. The elementary teacher's certificate the Education Department allows to teachers after a two years' course on Friday evenings and Saturday mornings. It is not advisable except in country schools that the ordinary teachers should take cookery, §405-8. The certificates obtained by the teachers in Dublin is that given by the National Union and recognised by the English Education Department, §418-36. The Education Department also recognises the teacher's certificate awarded by the London Training School of Cookery, the Edinburgh School, &c., which are not in the Union—granting only a guarantee that the teacher has gone through a minimum course of six months, §439-41. Inspected the cookery school under the Dublin Training Association, which was in existence for ten or fifteen years before being connected with the National Union. None of the schools in the Union give local certificates, all certificates being awarded by the Union examiners, which ensures a fixed standard. Would approve of the four teachers employed by the National Board in Ireland, and who hold the certificate of the National Union, giving a certificate to the local teachers in rural districts after submitting them to a two year course at Saturday classes in certain centres, §457-63. The fee for the course of the high class diploma of the National Union has been raised from fourteen to eighteen guineas, §472. Most of the training colleges have suitable centres for cookery, and the School Boards also supply numerous centres; an ordinary class-room can however be adapted and the things covered up afterwards. The children purchase the materials when they have cooked them. The materials are provided by the managers of the schools, §361-5. In Liverpool there was a good deal of opposition from educationists and others to the introduction of cookery instruction, §369-72, §377-80. It was preceded by courses of lectures, and specialised given where takes up, §414-7. The appliances used are of the simplest kind, nothing being used which girls do not find in their own homes, §381-4. The children take a text-book course along with the practical work, §384-6. The instruction consists of two hours for demonstration which is not merely a theoretical lecture but comprises cookery actually done before the pupils, and two hours for practical work in the afternoon. The two hours for demonstration is necessary to enable the cookery to be carried out fully. The blackboard is used throughout, and the prices of materials, &c., are put on it, §387-98, §444-7. Under the School Boards, the system of itinerant teachers is being superseded for a resident teacher in each centre. An itinerant teacher would give 10 lessons a week—2 a day for 5 days in the week, §399-402. The cost of the utensils requisite for a teacher going to a rural school would be 26 to 28, irrespective of the stove. The Department permits 18 pupils in a class; 12 is enough. The cost per child, irrespective of utensils, would be 25 a course, §431-7. Prefers special teachers to elementary teachers both in town and country schools, §438. There is no objection to children being present at the demonstration lectures, who do not take part in the practical work, §470-1.

BURNATS.

Cannot emphasise the importance of cookery too strongly, as bearing on the temperance question and comfortable homes. Refers to a speech of the late Duke of Albany showing the discomforts of some homes and the difficulty of getting a meal, which often

COOKERY—continued.

drive husbands to publichouses. The obstacles to its introduction in rural schools in Ireland will be the want of sufficient staff and the expense of apparatus. To supply the plant, £5 is wanted. In Essex, certain districts combine to pay peripatetic teachers, 9107-8. Gives some particulars as to the standards to be used. Advocates reform in the domestic economy course, 9109-10. The best way to promote the teaching of cookery in rural schools would be to arrange for the school teachers having a course of training. This however involves the expense of training them. In completely rural schools in England it is not taught at all; where the school is near a town they bring out a teacher. A peripatetic expert might be employed if all the schools combined to pay her salary; she would be the most efficient instructor, 9167-73.

GLADSTONE.

Cookery was introduced for the first time in 1875 into two schools under the London School Board. It is now taught generally in centres, 9926-8. States some educational advantages of cookery. It should be taken in conjunction with the "Domestic Science" course of the Code, 10053-5.

HAWKINS.

Under the Barrow-in-Furness School Board in 1896, the cooking instruction, teaching, materials, fuel, repairs, &c., cost the ratepayers £29 15s. 8d. over and above the Department's grant; the number of pupils taught was 3,140, so that the actual cost to the rates was 3½d. per pupil. Out of this number 970 pupils earned a grant from the Education Department, 10099-107. The cost of

COOKERY—continued.

putting up the cookery fittings came to £80, 25s in the one cookery centre, over and above the cost of putting up the centre, and 25s in each of the 5 ordinary schools, 10113-6. Refers to the unsatisfactory results arising from the non-relation of literary instruction to cookery instruction, where spelling and composition are involved in the latter. Want of time is an excuse for the specialist teacher in cookery for not correcting the notes and exercises of the pupils. Suggests a printed summary of the work for the pupils to be substituted for their own notes and copied out by them to remedy this defect, 10117-21, 10169-9. Gives reasons for bringing the teacher to the school rather than sending the pupils to the centre, 10147-51. Although the subject is taught in some Framing Colleges the students are not required to obtain the diploma, which the Education Department considers necessary when they subsequently teach the subject, 10186-8. The grant is 1s for 40 hours' instruction, 10191-3. The aim of the instruction has heretofore been to cook a dinner, whereas lessons should deal more with educational principles. The Board proposes to introduce an appended course which will counteract this defect, 10216-20. If cookery were taught in rural schools by itinerant teachers, would prefer the combined course of cookery, household work and principles of hygiene as taken in the Belgian schools, 10277-9. As a rule the Department requires the teachers of cookery to have a diploma, which cannot be obtained unless they have been 12 months in a cookery school. This presents a difficulty to teachers in rural schools wishing to qualify, which has sometimes been met by substituting an evening course of training. The subject is not taught to a considerable extent in rural schools in Cumberland, 10328-37.

DRAWING.

EDWARD TAYLOR.

The teaching of drawing in the Birmingham schools was placed under the supervision of the Birmingham School of Art in 1888. Explains the nature and extent of this supervision, and gives figures showing the resulting improvement, 3389-42. The cost of this supervision is about £300, 3420-2. The three inspecting teachers from the School of Art supervise the teaching in the schools, sometimes giving a lesson themselves, and they give a lesson each week to the pupil teachers. The expense of materials, &c., is borne by the School Board, 3449-57, 3460-8. The girls are not taught drawing in the Board Schools in Birmingham, 3394-7, 3436-7. Gives in detail certain suggestions made by him in a report drawn up in 1894 and presented to the Birmingham School Board, concerning the improvement which might be effected in the work done in the Board Schools under the Syllabus of the Science and Art Department, 3543-5, 3433-3. The drawing which may reasonably be expected to be taught in every school is intelligent scale drawing. This is the minimum, beyond which the varying efficiency of the teachers must be considered, 3346. In the infants school the kindergarten drawing should not cramp the children with minute divisions of the chequerboard shade. They must be allowed to draw freely. They should also be allowed to cut out geometrical figures in paper to get a concrete notion of them. Simple drawing to scale could follow. The first lessons should be drawn largely on a slate and should consist of free circular work as described. Then follows a knowledge of geometrical terms; next the use of the protractor and foot-rule, rendered attractive by the harmonious arrangement and enrichment of lines: exemplifies, 3352-61. The compass should not be used, for the curved line is easier for a child than the straight. There should also be a memory lesson for five minutes, drawing from memory. The ordinary uncertificated teacher can teach this course. It might

conclude with optional work consisting of simple outline work on blackboard, a leaf, bird, &c., 3362-3. Suggests a course for the upper portion of the school, proceeding from simple geometry combined with free-hand curves to exercises to convey the idea of a curved surface. With these should be combined simple design. Some of the Vere Foster copybooks might also be used, 3361, 3393. Explains the nature of flat-washing and advocates its introduction to teach an appreciation of colour, which develops the artistic faculty. The expense would be a few shillings for each school for the colour, and 1d. or 1s. each for the brushes, 3364. This suggested programme is on the lines of the "Alternative Scheme" of the Science and Art Department's Syllabus for Elementary Schools, 3472-4. Model drawing is quite beyond the capacity of ordinary teachers. The ordinary course should be confined to flat-work and flat-tinting followed by geometrical and scale drawing. Perspective should not be taught, and very properly is now not required for the school teacher's certificate, 3424-31. The certificate is no sound basis to go on with regard to the qualifications of a teacher. The teachers are trained to draw in the Training Colleges, but there is no test exacted of their ability to teach drawing, 3346-59. The examination should test their method of teaching. If it could be done at centres it would be more reliable than by written papers, 3365-8. The ordinary Inspector could examine drawing in the schools, but the teachers should be examined by experts, 3369-70. In the Training Colleges the students enter for the Science and Art Department examination, which is not specially for teachers, 3371-4. In the Board Schools many of the teachers have the certificate of the Science and Art Department. The second-class certificate of the Science and Art Department is insufficient as a qualification to teach drawing. Suggests test of power to teach drawing, to consist of a drawing in the middle stage towards completion. The present tests are sufficient to ascertain power to draw, 3388-

APPENDIX B. **DRAWING—continued.**

416. Advocates a specialist organizer in connection with each School Board or other school area, 3417-9, 3434-5. Advocates a special training in the method of teaching drawing, 3436-42. The County Councils in England have in many places instituted Saturday classes for training teachers, 3458-60. The first step in introducing drawing as a compulsory subject into Ireland would be to appoint experts in contrast to teach the teachers how to draw and how to teach drawing; they might also visit the schools to advise the teachers. A circular of instructions might be first issued to the teachers, 3475-82. Gives the number of children who should be taken at a time in a drawing class, 3483-5.

ROBINSON.

In Birmingham, the ordinary teachers teach drawing in the boys' schools, but it is not taught to the girls, except so far as is required for the hand and eye work, 3691.

JOHN TAYLOR.

Gives details of the Science and Art Department's Syllabus for primary schools, 3677-8. In drawing the teachers are allowed to classify the pupils according to ability, and not by age. The drawing lesson for all Standards takes place simultaneously in his school, 3678-82. Explains how the construction of the classroom is the chief difficulty to model drawing, 3683-5. The time given to the subject per week is two lessons of one hour and ten minutes each. The materials are all provided by the Board, 3686-8. Describes the system of inspection and examination of the Science and Art Department, in drawing, 3689-92. Explains the educational importance of drawing as a hand and eye exercise, 3693-4. The Science and Art certificate in drawing is a guarantee that the teacher can draw; but being able to draw is a very different thing from being able to impart it to a class. The difficulty will be met by the headmaster assisting and directing the teacher until he gets into a good method, 3701-6. As model drawing is extremely difficult for children, much should not be expected from them. More than 35 should not be given instruction in model drawing at one time, and the accommodation should be suitable. Drawing instruction should come before hand and eye work, even with girls. Got special permission in his school to give the girls a course of drawing instead of hand and eye work, 3713-9. If India-rubber was used too frequently and the class spent most of the time rubbing out instead of getting good sweeping lines, the rubber should be taken up from them, 3720-1. The drawing taught in relation to the manual instruction is simply plan and elevation, or solid geometry, which formerly formed part of the ordinary drawing course for the 6th Standard, 3729-44. In the training colleges more time should be spent by the Queen's Scholars in the practicing schools learning how to teach drawing, 3745-53.

ARMSTRONG.

Adopts the recommendation of the Technical Education Board that drawing should enter into the general instruction where every object used in experimental work should if possible be drawn, 3888. Drawing should be taught in the primary schools, 3889.

MAGNUS.

The drawing taught in connection with manual instruction is geometrical drawing which cultivates correct measurement, accuracy, and neatness, but does not train the artistic faculty, 4320-1. Freehand and model drawing are desirable branches of instruction; but to teach them to a child who shows no aptitude for them, may be a waste of time. Within these limits they are desirable for all children, 4325-30. Would have drawing commenced in Kindergarten work, and made continuous through the course. For that purpose the ordinary teacher

DRAWING—continued.

should receive instruction in it at the training college, 4331-5. For the introduction of drawing, elementary science, and manual instruction into Irish schools, the number of school hours should be slightly increased; a morning and evening session might be introduced into the schools, which is the English system, 4338-40.

LESLIE STANLEY.

Does not consider manual instruction as superior to drawing, which should be an essential subject of instruction in every school. Drawing should precede and be taught with manual instruction, 4405. The reports of the Science and Art Inspectors show remarkable and universal progress in drawing within the few years in which it has been made a compulsory subject, 4406-7. Under the London School Board drawing has been, since 1871, a compulsory subject for girls, but not for examination, 4406-7.

An hour a week is given to it, but as the subject is not in the Code for girls, the headmaster has liberty to determine the scheme of work, and it is not examined or inspected by the Education or by the Board Inspector, 4484-5.

DIGGLE.

Under the Code of the Education Department drawing was made compulsory for boys in 1890, when also manual training was permitted, 4532-4. It is commenced in the Kindergarten department and carried right through in all stages, 4566-7.

ROBERTS.

It would be possible to find time for drawing, elementary science, and manual instruction in the schools without interfering with the literary curriculum. One and a half hours a week should be given to drawing, 5350-55.

DU PONT.

Should be compulsory in the Irish schools. Mechanical drawing would be the most useful form. Before to the syllabuses of the Science and Art Department. The ordinary syllabus is suited to old manual work; the alternative syllabus is more artistic, free drawing of curves. As regards remote rural schools the same provisional discretion might be given to inspectors that is still given in England, viz.—where there is a teacher who qualified before drawing was made compulsory, and he is unable now to take it up, the inspector may certify that drawing cannot be taught in that school. When first made a compulsory subject the teachers came to neighboring towns for instruction, and peripatetic instructors were also employed, 5430-5.

BURCHMISTERS.

Schools have the option of putting in children even in the Infant department, for drawing under the Science and Art Department. It is optional in girls' schools, 5573-5. The manual instruction should be, as far as possible, applied drawing, 5589-90.

PRICEVAL GRAVES.

Was Inspector in West Somerset at the time it was proposed to make drawing compulsory. Many of the teachers had not then their "D" certificate, nor teacher's certificate in drawing, and some were not qualified at all. Saturday classes were accordingly formed at Taunton, at the School of Art, which they attended from all sides of the country, their travelling expenses being paid by themselves or their managers. The teachers grumbled at first, but soon fell in with the work, 6157-44. When the subject was made compulsory, the certificate was not at first rigorously insisted on. In cases where the masters were elderly, drawing was not insisted on in their schools, 6150-3.

DRAWING—continued.

FITCH.

It was in accordance with a strong recommendation of the Technical School Commission that drawing was made compulsory. It is not compulsory for girls, 8294-5. Would not recommend that in introducing drawing as a general subject of instruction, the obtaining of a special certificate should be enforced, as a condition of recognition, on the teachers, 8380-97. Instruction in drawing, to be effective, should include drawing to scale, 6605. The disciplinary exercise in drawing is principally the cultivation of accuracy, exactness in measurement, and observation. Subsequently the æsthetic side can be developed, 8617-24. Drawing is the foundation of the whole of manual instruction, and should precede it in Irish schools, 6889-700.

EDWARDS COOKE.

Drew up the "Alternative Syllabus," now included in the Science and Art Department's Syllabus for Drawing for elementary schools. Explains how the natural expression of a child's power in drawing is the oval form, on which that syllabus is founded. The scheme might be introduced as an alternative syllabus in Ireland. It is but one year old, but has been carried through in the Alma Schools, Whitechapel, under Mr. Coward, with great success. In it the child invents its own designs, using the brush. The faculty of designing must be cultivated early and continuously, or it becomes atrophied. Protectors against the cramping in the ordinary kindergarten drawing. Drawing improves the child's powers of expression, observation, criticism, and perception of the beautiful, 6836-74.

HEWITT.

Under the Liverpool School Board drawing was introduced in 1871 as an optional subject in all departments other than those for infants. In 1880 it was made compulsory for boys in those departments, while, in 1886 it was introduced as a class subject into the Code of the Education Department. The Board permitted it to be taught to girls as an optional subject, where the managers desired it. The Science and Art Department commenced to give the grant in 1887, 7825-31.

COURTESY HODGSON.

An important development of the Cumberland County Council's work in the training of teachers was the establishment of classes for instruction in drawing, held at centres up and down the county, to enable the teachers to obtain their Science and Art certificates. Since the Education Department made drawing compulsory there were a large number of teachers teaching it who had had no training. By attending these Saturday classes they were enabled to qualify, 8362-5.

SLATER.

The Cumberland County Council opened seven centres for elementary school teachers. Gives particulars of the number of teachers attending in various

DRAWING—continued.

years, arrangements made by the Council towards paying their travelling expenses, and number and class of certificates obtained from the Science and Art Department, 8891-992. Advantages have also been experienced by the teachers from interchange of views at these meetings at the centres, 8904-5. Certificates the "first and second class D certificates" of the Science and Art Department for elementary school teachers, 8904. The number of teachers attending the drawing and art classes during 5 years was 1,050. Owing to the instructing staff not being sufficient the number of centres has necessarily been cut down. The instruction in drawing in the schools has improved considerably as a consequence of the training of the teachers by the County Council. It is now taught in all boys' schools in Cumberland, whereas a few years back it was not taught in more than 20. Offsets the teachers' travelling expenses have not been paid. The expense of equipping the centres with models and casts was about £3 per centre, 8931-53. At present drawing is also taught in most of the girls' schools, brush work in about 10 schools, 8958-60.

BRENNAN.

The most extraordinary results have been shown since drawing was made compulsory, and unsuspected talent is being discovered. In the case of small schools everyone was trying to cry off in the beginning on account of the difficulties, now drawing has become practically universal even in very small schools. Mentions an objection to the inspection of drawing by the Science and Art Inspectors, being the cost incurred in rural districts in sending an Inspector many miles to examine a few boys in one subject. Also the objection urged by teachers that to teach the compulsory subjects, with the exception of drawing, no special certificate is required, and that it seems extraordinary that this one subject should be selected for formal examination. Considers the inspection of drawing should be done by the Education Department's Inspector, 9129-36, 9199-204.

GLADSTONE.

A special committee of the London School Board on technical education, appointed in 1885, recommended amongst other things, "That instruction in drawing commence in Standard I, and be carried out according to the graduated scheme laid down for each Standard. That increased attention be paid to freehand drawing from models in all schools, and that mechanical drawing and modelling in clay be introduced into certain schools," 9839-7.

HAWKIDGE.

There should be no annual examination in freehand drawing, but it should form a portion of the "occupations" course, and in the same way be subject to inspection only. This would make drawing more of an art training, 10172-3. Would advocate the introduction of the "Alternative Scheme" in drawing. Is preparing to introduce it in the Barrow-in-Furness schools, 10267-71.

GEOGRAPHY.

BAYLY.

Grammar and geography, which are the subjects allotted as a rule in the Birmingham Schools to make room for hand and eye work, are not compulsory under the Code, 3218-21.

ROBINSON.

Takes geography as a class subject in standard 6 in his school. Begins with a plan of the school, of the street, &c., and finds there is no occasion to omit the subject for the inclusion of the hand and eye work, 3508-9.

ARMISTEAD.

Would exclude geography from the lower standards, and substitute elementary science, 3533-41.

ROOPER.

The time for manual training can be provided by restricting the geography instruction to the learning of general and important principles without committing to memory a multitude of details. The method advocated by the Royal Geographical Society and carried out in English schools is to begin with a map or plan of the schoolroom, then of the locality; the teacher must be able to draw the plan on the blackboard, 5116-24.

APPENDIX E

APPENDIX B. GEOGRAPHY—continued.

PERCEVAL GRAVES.

In the Training Colleges they waste time on memory map drawing, 6312-3.

FITCH.

The best teaching in geography is oral teaching illustrated with the blackboard. This should be supplemented by a geographical reader, not a book of statistics. Physical geography is now being taught in conjunction with clay modelling, 6556-9.

BOTT.

Under the Liverpool School Board, geography is taken universally as the first of the two class subjects obtaining a grant. It is taught by means of a geographical reader—Langman's, Macmillan's, or Blackie's—which also does duty as one of the two reading books required by the Code, in the lower standards, 7439-53.

GRAMMAR.

BUTTS.

In Birmingham, grammar, which is not compulsory in England, is one of the subjects omitted to make room for hand and eye work, 5219-21.

ROBINSON.

In his school, takes English and geography as class subjects in standard 6. The English consists of a portion of Henry VIII., parsing, analysis, and composition. The curriculum is quite as full as it was before the introduction of hand and eye work. In the lower standards, however, they get but one lesson a week in picking out nouns and verbs, instead of three, 5903-11. In the upper standards the three lessons in English are maintained, 3618-20. Taken English as a class subject only in the 4th, 5th, and 6th standards, 3643, 3668-73.

MAGNUS.

Would have both experimental science and manual work in wood included in the curriculum, and would displace English grammar for the inclusion of either of them, 4235-41.

LEULPH STANLEY.

Attributes the extensive teaching of grammar to the fact that it was for a time compulsory under the Code, and to the influence of the Training Colleges. It is now being dropped in an increasing number of schools. Under the London School Board it was taught last year in 516 out of 556 departments, 4445-7.

DINGLE.

Making grammar an optional subject, and substituting manual work as optional, is a relief to the teachers, 4619-21.

ROOPER.

In England, formal grammar, detailed analysis, and parsing to a large degree, is now omitted. It is now chiefly confined to what is necessary in composition and correct speaking. Approves of this reform and the substitution of other educative subjects, 5255-61.

JOHN COOKE.

In his school grammar is not taught in the lower standards. Composition is taken up in standard 5, 5816-25.

GEOGRAPHY—continued.

CHAMBERS.

Does not teach geography in his school as a class subject, nor give any set lessons in it, but teaches it by means of a geographical reader, 9785-8, 9875-6.

BENNETT.

As a compulsory subject geography should be discarded in Ireland, 10079. Neither grammar nor geography are compulsory subjects in England, 10080-1.

MARSH.

Describes how he teaches geography successfully in his school by means of clay modelling, 10458-63, 10465-7.

PERCEVAL GRAVES.

The stent waistcoat of Latin grammar which was imposed on the English language by Dr. Motal and others is now vanishing. Mason's grammar treats the subject more historically. Dialect should not be considered bad grammar. Manual instruction, and the teaching of English in such a way as to make it bear upon composition, should supersede the present teaching of English in Irish schools, 6239-47, 6355.

FITCH.

Would be sorry to exclude grammar for the inclusion of manual instruction, but considers less time could be given to the former. The old idea of grammar as the art of speaking correctly, and the learning of rules of syntax, is not now prevalent among good teachers, but exercises in meaning of words, structure of sentences and composition, are indispensable. Analysis and parsing are very valuable when intelligently taught, 6348-55. Explains what instruction in grammar he considers necessary, 6284-90.

HUGH GORDON.

To make room for science and manual instruction, formal grammar should be omitted, 7580-6.

BOTT.

In Liverpool, elementary science is taken as the second class subject in standards 1 to 4, and grammar in standards 5 and upwards, nevertheless grammar is necessarily taught in the lower standards, 7432-42.

NIXON.

Is sorry that grammar is a compulsory subject in Irish schools, 8280-1.

GLADSTONE.

A recommendation of the London School Board Committee in 1880 was "That in order to allow time for experimental teaching and manual work, the time now given to spelling, parsing, and grammar generally, be reduced." Considers that as grammar is generally taught in elementary schools, the less of it the better. Less attention also ought to be paid to spelling, 9954-9. Would not teach parsing and analysis to small children as it is beyond their intellectual grasp. Experimental science is equally educational and more easily understood, 10061-8.

BENNETT.

Would much prefer to see arithmetic and spelling curtailed for the inclusion of science and manual instruction, than grammar. Considers "English is the logic of elementary schools." A latitude should be allowed teachers in order to give intelligent instruction untrammelled by a narrow syllabus, 10079-81.

HAND AND EYE TRAINING.

APPENDIX E.
II.

BEVIS.

The qualities developed by hand and eye work are accuracy, clean values, the reasoning faculty, sustained interest in work, and originality, 3095. Describes various exercises in the scheme carried out under the Birmingham School Board in paper folding in Standard 1; in Standard 2 with cubes—illustrating qualities of substances in three dimensions, and also in paper tying, 3096-103, in wire work in Standard 3, illustrating angles and curves, in cardboard modelling in Standard 4. This work is all done in the ordinary school-room and under the ordinary teacher, 3104-5. Gives reasons for preferring chalk pins to glass in cardboard work, 3103-5. The great difficulty is to get discipline into the work. Each boy must do the same operation at the same time, 3113-4. Adverses to the training of the reasoning power, 3114. In Birmingham in the beginning 75 per cent of the teachers failed at their examinations in hand and eye work because they failed to appreciate its significance. The older teachers, especially, found great difficulty in getting up the work, 3115-26.

In Standard 1 the equipment is a blackboard, and the materials cost 1½d. per year per child. In brick-work the tools come to 6d. per year per child, with 5d. per year per child to cover loss of materials by theft. For wire work the tools come to 1s. 2d. per year per child. For cardboard work the tools come to 3s. per child, cardboard 8d. incidental expense 6d. All these are supplied by contract to the Board, 3138-42. Explains distinction observed in Birmingham between the terms manual instruction and hand and eye work, 3164-5. In Birmingham there is no gap between kindergarten and hand and eye training, 3166-7. There was considerable difficulty in the beginning in training the teachers; some were practically incapable of doing the work, 3178-86. About six or seven lessons is sufficient for a capable teacher to pass the examination prescribed by the Board, a second course is given to those who are less apt. Does not insist on the teachers giving a certificate before commencing to teach. They can commence to teach after the first lesson. Assists them by giving a lesson to their classes in front of them, 3204-12. The certificate is given on his examination, and 60 per cent. entitles to a second class and 75 per cent. to a first class certificate, 3202-3. It is taken as a class subject or not, according as the head master determines. If it be a class subject two hours per week is given to it, it is not one hour. The grant paid by the Education Department for it, when taken as a class subject, is 1s. 6d. 3s., 3814-8. The subject omitted to make room for hand and eye lessons is either grammar or geography, 3219-21. The habit of accuracy and knowledge of arithmetic obtained in the hand and eye work is of great assistance to the boys when they take up the manual training, 3253-4. The girls take hand and eye work up to standard 4 when cookery and needlework take its place. Female teachers must obtain the Birmingham certificate in this work, because various schemes differ so much, 3278-9. There should not be more than 50 children in a class at hand and eye work. The course teaches moderately arithmetic, geometry, and construction of sentences, 3296-7. Mentions the dual inspection of the work by the Education Department and the Board's Inspector, 3317-22. Will put in a return giving the number of pupils receiving instruction under the Birmingham School Board and the amount of the State aid, 3333-7.

EDWARD TAYLOR.

Approves of the drawing done in paper-folding exercises in Standard 1, 3433-5.

ROBINSON.

Gives educational advantages of hand and eye training, 3487. In the wire work the use of a gauged ruler to measure to scale is introduced. A great

advantage is that the children are taught to read drawings, both of plan and elevation, from the very first; they also acquire great dexterity with the tools used, 3488-70. Instances in which the training gives habits of obedience and promptitude (it is also very popular with the children, 3491-3. Explains how the various exercises through the course aid and advance the literary curriculum. The literary curriculum is as full as it was before the introduction of hand and eye training. In the three lower standards the formal grammar lessons are reduced from three to one per week, 3509-11. Two hours and ten minutes per week is given in two lessons to the work, 3515-6, which is quite satisfactory, and leaves ample time for the literary work, 3517-8. No special teachers are required, and but one organizer for a district, 3520-2. Explains how Mr. Bevis's certificate for teachers is awarded. The teachers become more inventive and skilled with subsequent practice. They got no rise in salary until they obtain the certificate, 3523-7. Approves of the wire-work for girls, 3528-30, and the introduction of a continuous course of hand and eye training, 3534. One hour's instruction is preferable to two half hours, 3538-9. Explains how the official grant is paid for hand and eye training and manual instruction. There is no grant for cardboard work in Standard 4, which results in there being a gap for one year in most schools, the cardboard work—which is a splendid introduction to the manual work—being omitted, 3547-53. Illustrates, by describing the various exercises, how paper-folding develops the sense of rapid and accurate observation and prompt obedience, 3584-84.

JOHN TAYLOR.

Is of opinion from experience that the introduction of hand and eye and manual instruction has not interfered with the literary course, 3695-700. The training colleges give no instruction in this class of work. The only means of securing the necessary standard in the teachers is to have a director, such as Mr. Bevis, who will give them lessons in the evening, 3709-12.

LYDISH STANLEY.

No grant is paid for cardboard work, as it is not taken under the Code in London Schools. Gives a return of number of teachers in 1894-6 who attended courses of training in paper work, colour work, cardboard work, and clay work, under Mr. Vaughan, Organizer for the London School Board, 4457-60. The absence of ways and means precludes instruction in manual work in small rural schools, but not in the various kinds of hand and eye training, 4477-80. Hand and eye work is taught in all the schools under the London School Board, 4481-3.

DROMA.

Under the London School Board hand and eye work is taught in 950 departments. Mr. Vaughan is the Organizer, 4568-70.

SOLOMON BARTER.

As a preparatory course to the manual work, the flat-paper work has not a tenth of the value which cardboard has; but cardboard and clay-modelling are in front of all other forms of exercises. The Birmingham system of working the paper-folding from diagrams on the board is a useful educational exercise. Finds that the boys who have done the cardboard work do the wood-work best. Advocates the introduction of clay-modelling, 4684-87.

ROOFES.

The various forms of hand and eye training are a valuable introduction to manual instruction. Cardboard modelling is extremely valuable; it teaches accuracy of measurement and accuracy in cutting-out.

APPENDIX E. HAND AND EYE TRAINING—continued.

In Leipzig, and also under the London School Board, there is an excellent course of clay-modelling. The London course is worked out by Mr. Vaughan. Clay-modelling is not necessarily dirty work if proper arrangements are made. The teachers approve of the introduction of this training, 5102-17. Considers its introduction into small rural schools presents none of the difficulties which preclude the introduction of manual instruction. Finds the Birmingham system is in use in some of the rural schools in the Isle of Wight, 5391-3.

DE FOER.

Is acquainted with the Birmingham scheme, and has tried to introduce it in his own district. Is of opinion that Mr. Bevis's system lacks artistic culture. The teachers, holding that opinion, have modified the scheme by the introduction of colour and beauty of form, 5426-30. The hand and eye training in Standards 1, 2, and 3, is recognised under the Code as "Versed and Suitable Occupations." Four years ago it was proposed by the Education Department that varied occupations should, at a certain date, be demanded in Standards 1, 2, and 3; at a meeting of Chief Inspectors it was the unanimous opinion that the rule would be quite easily worked in large towns, but exceedingly difficult in the country schools, and so the proposition dropped. It is not generally taken as a class subject in schools under the London School Board where it is taught without any grant from the Department, 5493-5.

ROCKMASTER.

Hand and eye work should be taken as a development of the kindergarten work. Approves of and points out the qualities developed by paper-folding and wire work, *ibid.*, 5574-85, 5591-3.

JOHN COOK.

Describes the exercises in paper-work taken in Standard 1, and their educational purposes, 5635-719, and in Standards 2 and 3 where cardboard work is first introduced, 5720-34, 5741-9.

Exhibits several specimens of higher development of the cardboard-work done by boys in the higher Standards. The great advantage of the higher cardboard work is that where the expense might be a formidable obstacle to woodwork, work of this kind may be done. The initial equipment for a class of 50 or 60 would run from 2s. to 2s. 6d. per head, the yearly maintenance to 6d. a head, 5750-61. Has been taking a class of 40 at 5s. in paper-work; would prefer a smaller number, and in higher cardboard-work more than 50 should not be taken. His class lasts from 2.15 to 3.45 o'clock. If taken as a class subject the ordinary grant of 1s. or 2s. is given, 5763-70. For cardboard-work no separate room or desk is required. Consequently it would be most suitable to rural schools, where one teacher could take it, 5187-90.

In cardboard-work mechanism and must be introduced, 5804-61. In the case of rural teachers if arrangements were made for a peripatetic instructor to teach them the cardboard work they could commence to take the subject in their classes after about 8 to 10 lectures out of the 24, which would comprise their course of training, 5812-6. The work is not generally taken in rural schools on account of the expense, 5878. The pupils take an interest in the cardboard work, 5879-85. Explains the system of hand and eye work taken as "Suitable Occupations" in his school, 5881-91.

VAUGHAN.

Refers to the Report in 1886 of one of the examiners for the Scholarship under the London School Board, which stated that "the children were mere machines." The result of this Report was the appointment of a Special Committee of the Board to take evidence on

HAND AND EYE TRAINING—continued.

the matter. The Committee was strongly in favour of developing the kindergarten system as a basis of manual training proper. Kindergartens had then been introduced into infant classes, but ended there. The first practical step taken was the course of lectures given to teachers by Mr. Ricka, directly afterwards classes were formed so that the teachers could do practical work. The classes for teachers commenced in 1889. In 1895 the Education Department investigated the whole system of hand and eye training, and issued a circular on the subject under the technical term "Suitable Occupations," being the first circular dealing with the work in Standards 1, 2, and 3, 5940-59. Two years ago the Department proposed making Suitable Occupations compulsory, but the teachers objecting on account of the crowded curriculum, appointed a deputation to wait on the Vice-President, who agreed to leave the subject optional for the time, 5959-61. In Standard 4 there is no grant from the Department, and no recognition for that instruction, which is in reality the continued development of hand and eye training, 5971-8. The aims of this subject are to develop manual dexterity and accuracy; to cultivate an appreciation of form, proportion, design, and to awaken the artistic faculties generally; lastly, to cultivate an aptitude and respect for manual occupation, 5978-85.

Drawing is an integral part of the hand and eye training, 5986. Describes the various exercises done in Standards 1, 2, and 3, 5987-6008. The whole scheme may be found in "Designing in Coloured Paper," "Modelling in Cardboard and Colours Work," by Mr. Ricka and Mr. Vaughan [Cassell's]; and "Break-drawing," by Mr. Vaughan [Moffitt and Page]. Describes the exercises in colour-work and brush-work, 6009-17; also in cardboard-work, as a medium for teaching solid geometry, 6017-8. Describes the clay-modelling done in Standard 1, 6020-3. Drawing is used in connection with all these branches; and is the fundamental idea of them all, 6024-6. The whole is a gradual development of kindergarten work, and leads up to manual instruction, except in so far as the basis in Standard 4 interferes, 6027-30. The majority of schools take only one of these varieties of hand and eye work continuously throughout the standards. It would be desirable they should take more than one, 6031-7. Distinguishes the expression "hand and eye training" from "manual instruction," 6040-1. The term "colour-work" includes work with coloured chalks and water-colour work. "Brush-work" is entirely different, and means drawing direct with the brush, using but the one colour, generally for the purpose of decoration, 6042-3. In the initial stages the children are instructed as to what colours to put on in the colour work. Subsequently they get to recognise and select harmonious combinations of colours, 6048-101.

Organises all the classes under the London School Board in this work with the assistance of a staff of 14 or 15 instructors. Classes for training teachers are held in the evenings, 6083. In the last seven years 5,000 teachers have been trained. At present 1,500 are being so trained. There are 8,000 teachers in the Board Schools, 6046-7. This work is taken up in between 550 to 600 departments under the London School Board, 5,048. If a teacher had no taste for this work he would be put to something else, 6090-1. The work is popular with the pupils and increases the attendance, 6093-8. Visited France in 1889, and America in 1893, to see the systems pursued in hand and eye work. In 1882 it was made compulsory in France, every school being obliged to take it for one hour a day, for children between 7 and 10, and 1½ hours afterwards. Was not impressed by the French work which was not then in an advanced stage 6062-70. The French system is a well graduated and comprehensive scheme comprising paper-folding, clay-modelling, colour work,

HAND AND EYE TRAINING—continued.

wire-work, and basket-work. Visited many rural schools with an average attendance of 60 where it was taught. It was taught in the French Training Colleges, 6088-94. In the United States the several Boards of Education are fully alive to the importance of such work, hand and eye training being much more widely developed than manual instruction. Owing to the absence of any central control their schemes differ very widely, 6,076-86. Considered that in the elementary part we are quite ahead of anything in America, but then manual training schools—the St. Louis and Chicago Manual Training Schools, and the Pratt Institute, Brooklyn—are better than ours. These are not in connection with the primary schools. Their systems of secondary schools in which some developed than ours, 6066-7. Their teachers do not get any training in this work in Training Colleges, but take courses subsequently. At the Chicago Exhibition the work of the English primary schools was inferior to that of France and Germany in the lower portion of the course, but in the wood-work and clay modelling it was superior, 6102-7.

PRACTICAL GRAYES.

One of the advantages of hand and eye work is that dull boys and girls who did not find their mother before, seem to have found something that attracts and interests them. It also affords a recreative change, 6193-4. It also keeps them longer at school, 6201. The brush-work carried out at the Alma School should appeal to the Irish boy's artistic taste and to his propensity for showing rapid results, 6211. Instances advantages from hand and eye training, to girls and boys, 6619-23. Finds that the work of the children is often used by their parents to ornament the chimney-piece in their homes. They also allow the children to remain longer at school on that account. Paper-folding has been found useful for children, who, after they leave school, are engaged in envelope-folding, cardboard work in cardboard box-making, &c., 6306-11.

FIBRE.

Tactern "Appropriate and Varied Occupations" was first inserted, in 1881, in Article 98 of the Code, in reference to kindergarten occupations in infant schools, and subsequently came to be used as a generic term for all hand and eye training, 6423-6. Describes the various kinds of hand and eye training carried out in the École Modèle in Brussels. The object of these exercises is to encourage the habit of close observation, perfect accuracy, and careful measurement, 6515-7. Consider two hours a week sufficient time to devote to the instruction, 6518-20. For the introduction of these occupations the history programme should not be reduced by the entrance of grammar or geography, but provision could be made by reducing the amount of instruction given, 6545-53. Considers clay-modelling a useful exercise if careful measurement be observed, and if the forms be first drawn. Every additional occupation gives an open to varied capacity in children, 6604. In rural schools, which prevail in Ireland, where manual instruction cannot be introduced, there being only one room, occupations such as drawing, cardboard work and wire-work could be introduced 6709-4. Where as is the case in Ireland the rural teachers have received no special training in cardboard work, &c., it would be well to circulate a small manual well illustrated, descriptive of a few elementary exercises. The Department should not be too exacting in its requirements, but say—"Here is a thing we want done, and do your best," without exacting any certificate. A peripatetic organiser would also be useful, while at the Training Colleges a skilled lecturer might be employed. The beginnings should be very simple in the hope that the thing would grow, and it will grow more by the co-operation of the teachers than by the special requirements of the central authority. In the towns the organiser might

HAND AND EYE TRAINING—continued.

gather together a good many teachers, and in rural districts they might be gathered at a centre on Saturdays, for instruction. It should be impressed on the teachers that the main object of this work is not to get a certain exercise worked out, but that there is an educational object to be kept in view. Illustrates this by quotations from the "Instructions to Inspectors," 6705-16.

HIDSON.

Advocates paper-work, &c., as an extension of kindergarten work. Considers that Mr. Bevis's scheme to train children to recognize plans and elevations, is too difficult, having regard to the pupils' ages. These occupations are an excellent training where manual instruction cannot be introduced, 6782-7. For the training of teachers there should be courses of instruction, and it should be made compulsory in the Training Colleges. Favors a certificate as a guarantee of efficiency, 6783-93. The cost of introducing a scheme of paper or colour work would be about 1s per head, and the cost of materials per child per annum, 3d. to 4d., 6793-4.

OULOUS.

Attention was called to the gap that existed between kindergarten and manual instruction in 1890, and a system of higher kindergarten was introduced in the intermediate standards from the infants up to Standard 4, 6882-5, 6968-77. The cost of this hand and eye work is not great. Kindergarten is however an expensive item, 7330-4.

ROBE.

Describes the various exercises in lath and bead laying, paper-folding and tearing, paper-cutting and laying, clay-modelling, paper-cutting and mounting, wire work, &c., taken in Standards 1 to 4 in the "Graded Course of Simple Manual Training Exercises for Educating Hand and Eye," drawn up by Mr. Hewitt for the Liverpool School Board, 7603-15. This course is taken by girls as well as boys up to Standard 5, when the girls take up cookery, the boys woodwork. States the grant given by the Education Department for "Suitable Occupations," 7619-28. No subject was dropped in its introduction, but a little time was taken from the various subjects to make up the hour given to it, 7642-5. The exercises are of such a simple nature that with a little assistance from Mr. Hewitt, and help from one another, the ordinary teachers were able to conduct the instruction on its introduction, 7730-1. At first they objected somewhat to the work on the ground that the curriculum was overcrowded, 7732-3. About one hour per week is given to it, 7737.

HEWITT.

Under the Liverpool School Board the hand and eye work was introduced about the same time that elementary exercise was taken in the lower standards, 7830-2. The various exercises are adapted for class work at the ordinary desks, and are taken by the ordinary school teachers, who should not take more than forty pupils in a class, 7860-3. When drawing up this scheme for the Board, he made the drawing done by the pupils in the ordinary course, an integral portion of the work, and also made provision for conversational lessons. Explains the nature and importance of these conversational lessons, 7868-83, 7914-20. In the exercises dealing with coloured papers, attention is given to the combination of colours and symmetrical arrangement, 7880-91. The cost of the work for a class of 40 in Standard 1, would be £3 7s. in Standard 2, £3 12s. in Standard 3, 2s. in Standard 4, £3 5s., the cost of the cardboard work would be 10s. for Standard 1, 12s. for Standard 2, 12s. for Standard 3, and 20s. for Standard 4, 7907-11. The introduction of the work was gradual. Went personally to each of the schools, and discussed

APPENDIX B. II. HAND AND EYE TRAINING—continued.

it with the head teacher. Spent 3 years introducing the 4 courses. The teachers assembled in classes, and worked the exercises under supervision, 7914. Approves of full latitude being given to any teacher to work out his own scheme of instruction, 7947-8. Describes how the difficulty of training the teachers was overcome on the introduction of hand and eye work generally under the Board, 7957-8. Some of those were teaching rural schools with an attendance of sixty or eighty pupils—one teacher with a monitor being the staff. They expressed themselves as having great difficulty in taking up a subject of this nature, 7959-62.

PEARSON.

Considers the exercises comprised in the scheme in Standards 1, 2 and 3, excellent, but would wish those in Standard 4 to form more of a bridge between Standard 3 and the wood-work in Standard 5.—8033-7.

NILES.

It is only of late years that the Liverpool School Board have introduced this advanced kindergarten. Explains how drawing and arithmetic are taught profitably in the hand and eye exercises. The less apparatus used the better. Finds that lessons can be equally well given with little apparatus as with much, if it is of the proper kind. The exercises should be so connected that one leads to the other, 8346-51. Clay-modelling, which begins with the infants, goes up to Standard 3, in Standard 4 wire-working and cardboard working are taken, and in Standard 5 the clay-modelling is taken up again. This latter is the most popular work done, and as an educational medium gives a training not to be obtained from drawing, &c. Its disadvantage is that the desks get so dirty that a separate room is almost necessary. In clay-modelling, cardboard work, or wire-work a very skilful teacher can manage a class of thirty pupils, an average teacher about twenty, 8255-62. These manual subjects are the most popular in all standards until they get into Ex-7, in the Organised Science School, where practical chemistry is more favoured, 8263. To introduce this hand and eye work, time had to be taken off certain subjects, and although elementary science was introduced at the same time, no subject was dropped. The "3 R's" suffered most—handwriting and spelling most of all, 8299-310. The general subjects of the school have not suffered at all, there is, on the contrary, an increase of intelligence, 8311-3. Enumerates the various kinds of hand and eye exercises taken up, 8408-13. The teaching of reading, writing and arithmetic would not necessarily be improved by cutting out one one of the various forms of manual instruction, 8414-31.

NILES.

In Manchester the hand and eye work is quite voluntary for the teachers. Two years ago he trained about 250 teachers in "varied occupations," when it was proposed to make it a compulsory subject, but since the circular was withdrawn by the Department, the work stopped. The teachers find they have not room for the subject, 8626-7.

COURTENAY HODGKIN.

Quotes a letter from the Education Department dealing with the introduction of instruction in cardboard work in an evening school, from which it appears that the Education Department did not consider that cardboard work was a suitable subject of instruction in night schools, while a short time previous the Science and Art Department in a circular advocated its introduction into schools. Advocates the abolition of the dual control of the Education Department and the Science and Art Department in regard to elementary schools, 8685-8, 8746-52, 8763-74, 8828-30.

HAND AND EYE TRAINING—continued.

SLATER.

In classes for elementary school teachers organised under the Cumberland County Council, instruction was given in clay modelling and cardboard work, 8808. Gives particulars of the course taken, 8928-30. Considers that clay-modelling is the best exercise for the lowest Standards, followed by modelling in paper and cardboard as described, 8915-7. When the Education Department made "varied occupations" compulsory, practically every school took the subject. Although it is again optional, it is still taught in a fair number of schools, 8957.

BISHOPS.

Owing to considerable pressure on the Education Department "varied occupations" are no longer compulsory. The forms of exercises in use in Standards 1, 2 and 3 are not platings of more elaborate patterns in paper, decoupage making, netting, designing, colouring, sometimes brush, and sometimes chalk drawing and basket work. They form a relaxation highly desirable, and give an opportunity of excelling in children who are dull at book-work, 9105-6. Regards the fact stated by Mr. Courtenay Hodgkin, that cardboard work is not recognised as a suitable subject of instruction in evening schools. It is very simple, and creates great neatness of hand, and accuracy of workmanship. With this instruction as a groundwork, cardboard boxes, now made in Germany, could be made at home, 9141-3, 9237-43. The hand and eye work is now not taken in rural schools owing to want of staff. Considers it quite possible for a single teacher to teach it: the teachers cried out before they were hurt, 9102-5. Regards this work as most educational when properly taught, 9211-5.

CHALMERS.

Prefers clay-modelling to cardboard work, 9709-15. For the brush-work alternative scheme the provision of benches and colours is rather expensive, 9714-7.

HARRINGTON.

When hand and eye training was about to be introduced into the Barrow-in-Furness School Board, it was found necessary to recognise the kindergarten instruction in order to make it the basis of the continuous course of hand and eye training, which is the natural complement. Gives particulars of the hand and eye syllabus drawn up by him for schools under the School Board, and of the ages of the pupils taking these exercises in Standards 1 to 4, 10094-5. The great obstacle to introducing the occupations is the want of skill in teachers, owing to the absence of any course in the Training Colleges, 10135. It is difficult to get the right materials and appliances for the work. In many cases the teachers must be supervised, as they have to take of the selection of tints in colour. Was allowed £150 by the School Board to introduce the subject into the twenty-three school departments, containing 1,534 pupils, under the Board, 10148-9. About an hour a week is given to the subject in the schools. The metric system and arithmetic should be related to the exercises. The subject is increasing in popularity with the children and their parents. Teachers should be taught these occupations in the Training Colleges, 10161-5.

Modelling in clay is taught as a form of hand and eye work under the School Board. If there were no annual examination in drawing, and it were tested by inspection only, it would result in benefit to the freehand drawing and the hand and eye work, provided that the former were made a portion of the other work exercises, 10173-3. The preceding of curved surfaces in clay-modelling is a preparation for doing so in wood-work, 10174-7. A great deal of advantage has been derived from the fact that no definite syllabus has been laid down for these "varied occupations."

HAND AND EYE TRAINING—continued.

The teachers should be trained in the principles, and allowed a latitude in working out their schemes, 10391-3. Hand and eye work has been taught for four years under the Board. It is capable of still more expansion, and there is no tendency on the part of educationists to go back to the old system of purely literary education. Instances increased intelligence in the literary work in a school dating from the introduction of the hand and eye and the other subjects of practical instruction. The school attendance is also improved, and the children acquire skill and dexterity of hand and eye. The cost to the rate for 1896 of all the subjects of practical instruction taken in the Barrow-in-Furness schools, was £39 17s 4d, the substantial expense being covered by the Imperial Endowment, i.e., by the grants from the Education and Science and Art Departments, 10393-300. The parents are pleased, and neither they nor the educationists would wish a return to the old system, 10390-3. These subjects should be taught in the Training Colleges. All the hand and eye work is taught by ordinary teachers, the expert

HAND AND EYE TRAINING—continued.

being only used as a matter of economy in large towns, 10391-10. Advocates modelling in clay, 10315-8. No subject was omitted for the introduction of the hand and eye work, 10310-3.

MANCHESTER.

Describes the scheme of hand and eye work issued in February, 1894, by the Barrow-in-Furness School Board for Standards 1, 2, and 3. The strong point in the scheme is clay-modelling, which is held by most authorities to be the most educational of all the "occupations." States its educational advantages. Describes how geography is taught through it with great success. Attributes increased success in literary work to its introduction. Advocates also cotton work as a hand and eye subject. It is teaching self-geometry in a concrete form. The cotton-work in Standard 3 is the most popular work in the school, 10455-68. In Leipzig Manual Training College there is a children's class in cardboard work on Wednesday and Saturday afternoons. Has not seen it taught in the elementary schools in Leipzig, 10471-4.

HOUSEWIFERY.

DOUGLAS.

Describes how in 1891 the Joint Committee on Manual Training (which is composed of representatives of the London School Board, of the City and Guilds of London Institute, of the Drapers Company, and of the London County Council) tried an experiment in housewifery. In 1893 the subject was recognised by the Education Department. The London School Board has taken the subject too largely, and established centres in various parts of London, and is now engaged in considering how all the practical subjects connected with girls' training may be taken in one connected course, 4634-6. Gives particulars of the housewifery course, 4638-91.

MRS. HOMAN.

The Sub-Committee of the London School Board as domestic subjects is now commencing housewifery instruction, 4321-32. Explains in what the instruction consists, 4367-9. The housewifery centre is attended by children from the surrounding schools. Up to this the theory of domestic economy was taught in the ordinary schools. The object of this instruction is to take it out of the literary curriculum and combine it with the practical instruction given in the centre, 4374-81. There is a difficulty regarding teachers for the centres, as the Board requires them to have learned advanced hygiene and chemistry, and to have a diploma for cookery, and they must be able to teach. The Polytechnic and the Joint Committee are now affording facilities for the training of these teachers. Those employed by the Board were not elementary school teachers previously, but have been specially trained to give this instruction, under the Board's superintendent Mrs. Lord. The Board is also arranging to open additional housewifery centres. The cost of furnishing a centre is £40, 4382-90. Gives particulars of the instruction given, showing it to be of a practical nature, 4401-12. Considers the teaching of domestic economy in schools has some value, but its value is greatly enhanced when, as in the housewifery course, it is combined with the practical work, 4413-5. The parents of the children have given gratifying evidence of the great benefit derived from this training. The school in Abbey-street, Bethnal Green, has been only a year in operation. The instruction is popular with the children, 4416-20.

MRS. LOWN.

Explains what subjects are embraced in the teaching of housewifery, and gives details of the work, 5444-7. As superintendent of the work for the Joint Committee, has a class for training teachers in housewifery. Candidates are required to obtain the diplomas of the Science and

Art Department in hygiene and physiology. There are at present but three qualified teachers; those in training are getting out these diplomas, 5448-52. There is no limit of time for the housewifery certificate; the candidates give two evenings a week to the work, and Saturday, and work in the centres under supervision, 5475-6. The course as taught to the children will bring out any defects there may be in the previous teaching of cookery and laundry-work, since it combines both, 5457-61. In the case of schools which send their children to the housewifery centres, domestic economy is not taught, as combined theoretical and practical instruction in the subject is there given. Though the theory was of some value, this substituted course is a great educational advance, 5462-7. Gives some particulars of the nature of the instruction, 5468-9.

MISS CALDER.

Under the Liverpool School Board, housewifery is taught in a science school for girls. The course which is six or twelve months, follows the elementary school course, and is its complement, 7375-6. It comprises cookery, housewifery, household sewing, and domestic hygiene. The teachers are resident, and the girls learn these subjects by doing the work for the teachers. It is held at No. 4, Prince's-street. On Wednesday and Thursday mornings, the work is practical, in the afternoon it is by lecture. The Board hopes that as a result every girl will be required to attend such a school, 7421-6. The term "Domestic Science School" was specially chosen, as by analogy, it seems to place the work on an intellectual standing with that done by the boys in the Organized Science Schools, 7448-50. Finds the girls are very unwilling to bring their garments to be darned and mended. Domestic millinery is taught, and they willingly bring their old hats and bonnets, and are delighted with the transformations effected, 7451-6.

GLASSGOW.

Housewifery was started under the London School Board, in the William-street (Hammersmith) centre. It is now also taught at Bedford-street, Walworth, which they say is a better centre, 9910-1.

HAWKINGE.

Approves of the housewifery centres in Belgium, which combine cookery, laundry work, and the principles of hygiene, 10378-9.

MISS ANDREWS.

Gives particulars of the work done in the housewifery classes in Belgium, 10410-6.

INSPECTION AND RESULTS FEES SYSTEM.

ROBINSON.

In England where there is a School Board, the grants for the various subjects are paid to the Board, which pays the teachers fixed salaries. If the money were paid to the teachers direct, they would teach the subject less intelligently and would be more anxious to get the result regardless of the method, 3042-4. Illustrates the manner in which the Inspector tests the knowledge of the classes. The main point of difference is that it is not necessary for the class to keep grinding up all the facts given in previous lessons, 3045-6. Under the Birmingham School Board there is a dual inspection. The Board's Inspectors come in several times a year, and the Education Department's Inspectors come in at least twice a year. In England the examination for results fees has been dropped, and a system of inspection of the methods of teaching substituted. The visits of the various Inspectors are a guarantee that the standard of teaching will be maintained in city schools. In rural schools the Inspector makes surprise visits at which he examines the pupils and asks for the records of the work each day, and can ask for the same lesson to be given over again; and in many subjects he can say, "Show me your notes—what have you prepared for to-day?" He does this on a surprise visit. If he found a case of a few children being unable to answer in any one subject, he might make a note of it on the report of the school. Each year he makes at least two visits, and he reports. If the report is unfavourable, the teacher does not lose portion of his income; if the work was bad the Inspector might give the lower grant. The advantage of this system over that which makes the teacher's salary depend on the work of each individual child, is that it does away with the feeling of irritation and anxiety. In certain cases there must be a year's notice if the grant is to be varied. States the right of appeal the teacher has from the Inspector, and the terms of agreement as to notice of dismissal of a teacher, 3061-63. The Instructions to Inspectors provide that the grant should not be lowered unless the falling off is distinct and recurrent, 3065-6. Inspection is not entirely substituted for examination as the Inspector has liberty to examine the children individually should he deem it advisable, 3064.

ARMSTRONG.

Would substitute inspection for examination entirely, so that there should be no examination of the children until they are leaving school. The constant supervision of the inspectors would suffice to keep the teachers up to the proper standard, 3083-5, 3093-7. The proposed "leaving examination" would always index the efficiency of the teachers, as a number of pupils leave each year, and this would involve a yearly examination to that extent, 3092-62.

MATTHEW HELLER.

It would be absolutely impossible for a teacher to give intelligent instruction under the results fee system, 4033-4. Considers that an increase of salary might be made where the report was very favourable, but should not be withdrawn in any subsequent year. Would be opposed to any variable grant, as it should not be regarded as an incentive if the teachers have their work at heart, 4094-111. A very general test of the class, together with inspection of the teacher, should be sufficient to determine the relative efficiency of the teachers, 4129-42.

MAGNUS.

Approves of the abolition of payment by results. Prefers inspection to examination. Gives the mode in which the inspection should be carried out to be

effective, 4203-6. The abolition of payment by results has increased the freedom of the teacher and his sense of responsibility, 4313-5. The income of the teacher should be independent of any immediate ascertainable results as tested by examination. Would not be inclined to advocate any extra allowance to a teacher, over his fixed salary, on a report of extra zeal and efficiency. The hope of permanent good work on reputation, would be the best incentive to keep up the standard of instruction, 4341-45.

ROOFER.

Describes the organization of the Inspectorate Department in England, 4375-81. The nature of the present inspection is of two kinds, the older, based upon an examination of the pupils, the new, based rather on inspection of the methods of teaching. Both are at present in operation. If a school is not considered to have reached a good state of efficiency, the older system is still persevered in. Under it all the children are examined on a given day by sample, a certain number being taken in one subject, and a certain number in another, every child being examined in something. The payment of the fixed grant is in that case made on the average attendance, and the payment of the variable grant on the report of the Inspector, 4392-5000. The system of payment on the individual answering of the children, that is the results fee system, was given up in England some years ago. Describes how the most modern of the three systems, that of inspection, is carried out, 5001-13. In England the salary of the teachers is a matter of arrangement between the manager, to whom all the grants are directly paid by the Department, and the teachers. Gives particulars of the right of appeal of the manager against an unfavourable report of the Inspector, 5014-20. Under the Code, every child in the school is still liable to examination, 5021-3. Is very much in favour of the new system under which the Inspector has more time to pay surprise visits and watch the progress of the schools, 5024-32. The teaching of the compulsory subjects of the curriculum must be reasonably good, under the present system, to earn the higher grant of 16s. If the Inspector should find one subject weak he would state so specially in recommending the lower grant. In the case of the larger class of schools the Inspectors are instructed to consider whether the school as a whole has been well organized, and not to recommend a reduction of the grant if one class be weak. If one particular subject continued weak after notice, a reduction of the grant should be made, 5201-6. Compares the system of inspection with the sample examination and results fee systems, 5207-11. Explains how under the results fee system the work became mechanical, and the tendency was to work down to a minimum, 5213-5. At present the Inspector directs the teacher to set papers to his pupils as often as every fortnight. These are prepared for his inspection and he is enabled to trace the progress of each pupil, in addition he may give an oral examination, without tabulating results, 5216-21. The older system is still retained in the case of inefficient schools, because the large liberty allowed the teacher under the inspection system might be misused, 5227-5. The variable portion of the grant is at present very small and is determined by the excellence of the instruction, 5226-31. Explains how the inspection by sample was carried out. The present system, on the whole, leaves less liberty on the Inspector, and enables him to spend more time in the schools, 5213-8. It is the general opinion of the Inspectorial staff that the schools have risen in efficiency of late years. Attributes this partly to the change in method of inspection, 5330-2, partly to the abolition of the

INSPECTION AND RESULTS FEES SYSTEM—continued.

age classification in the standards which prevailed under the old system. The liberty of classification now gives a larger number of children in the upper part of the school, 5383-6. The introduction of manual instruction would be impossible under the results fees system, 5383-9.

Du PONT.

Mentions the extent of his district for purpose of inspection as one of the Chief Inspector, 5336-401. Under the former system of inspection, manual instruction could not have developed as it has done, 5417-9. Considers, without qualification, that the abandonment of the system of individual examination of the pupils and the substituting of the new system, is beneficial. Experienced Inspectors concur in this view. Payment by results was a necessity at the time when introduced by Mr. Lowe, on account of the low standard of efficiency of the teachers. Describes the various stages of evolution from the results fees system to inspection, 5450-67. Would substitute inspection purely for the present system in use in Ireland, 5468. Since the introduction of the new system, intelligent composition exercises have superseded the spelling of out-of-the-way words. The diction known has also become more natural. Describes how the teaching of arithmetic suffered by the straining to prepare for the yearly examinations, 5534-8. Gives the advantages of the private quarterly examinations now in use, 5539-48. Describes the process of examination carried out under the new system, 5549-55. Considers the pupil's life is 50 per cent. happier under the new system than it formerly was, while they work so hard and more intelligently. The evolution still comes in in the quarterly class examinations, 5556-62. Would favour a "leaving examination," 5553. Under the results fees system the children who had not made 100 attendances were not examined by the Inspector, under the sample system they were specially marked; under the present system they are much more carefully inspected, as their backwardness does not tell against the master, 5564-6. Answers the objections of masters and managers, to the substitution of inspection for examination, by examples illustrating the defects in reading instruction which junior teachers fall into, and which the Inspector at his visits may point out and so remove, 5567-74.

BUCKMASTER.

In the case of organized Science Schools, the Science and Art Department follows the second system or the system of sample inspection. In the case of the elementary schools the grant of the Science and Art Department depends on the answering of each individual pupil, 5568-72.

GRAVES.

Has had experience of all three systems of inspection, and strongly advocates the present English system. The inspection should be more frequent than once a year, 5585-8. If the Inspector could only visit the school once a year, he should have a deputy-inspector

INSPECTION AND RESULTS FEES SYSTEM—continued.

who might make the additional inspections, 5589-93. Explains how the Inspectors in England fix the arrangements of the time tables, 5594-5. The substitution of the present English system for the Irish system would leave an enormous amount of extra time on the hands of the Inspectors, which would enable them to visit remote schools more frequently, 5516-20.

FRENCH.

Was formerly Inspector of Training Colleges for Women. Explains the former and the existing arrangements regarding inspection of the Training Colleges, 5499-92. The objections to payment by results were very grave and very real, but individual examination has unfortunately been conformed with the idea of payment by results; there is not, however, any other form of examination that is effected, either in schools or universities, except individual examination. It was a distinct loss when the habit of recording the passes of the scholars was entirely given up. Would favour a "leaving examination." It would go a long way to reconcile one to the absence of individual examination in the lower standards, but individual examination would be absolutely necessary at the "leaving examination," and if leaving certificates were given, the necessity for an annual examination would be very greatly diminished. Considers inspection should include more individual examination than is now required in English schools, 5651-52. Describes the different stages through which the system of examination and inspection has passed in England, commencing with the establishment of the results fees system, on the recommendation of the Royal Commission in 1862, called Mr. Lowe's scheme. The Royal Commission recommended a course which Mr. Lowe did not adopt, and which exists in Ireland, viz.—the paying of teachers. Mr. Lowe's results fees system affected the payment of the grant to managers, who made their terms with the teachers. The first step was that the grant depended purely upon the number of passes in reading, writing, and arithmetic. In 1870, Mr. Forster introduced other subjects, called "class subjects." The examination in these subjects was not an individual examination of each child, but the grant was awarded on the Inspector's report upon the manner in which the class had acquitted itself on the whole. In 1883 an intermediate experiment was tried, the grant—to be awarded on the Inspector's total impression of the intelligence, order, and tone of the school. This had to be abandoned as it was construed into a classification of the schools involving comparison between them. Then followed the present stage. Does not approve of the complete abolition of individual examination which when used to a modified extent, is a great check both upon slovenly inspection and slovenly teaching, 5717-44.

GLADSTONE.

Strongly condemns the results fees system because it is merely examining children with vaporous knowledge, so that they may be able to answer the Inspector, 5960-5.

KINDERGARTEN.

DODGE.

Explains the extent to which instruction in Kindergarten occupations is given under the London School Board, 4555-65.

ROOSEN.

Kindergarten occupations have been introduced in practically all infant schools in England, and especially in large towns. Never came across any teacher who having once adopted the Kindergarten occupations, had any desire to return to the former

exclusively literary course. Has had experience of both town and country schools. Considers that in country schools with sixty pupils and but one teacher, Kindergarten can not only be managed, but is almost necessary. The materials for the work are supplied in England, as part of the apparatus, by the managers, who pay his teacher, 5084-50, 5172-5. Considers the principles quoted from "The Instructions to Inspectors" as to what should be regarded as the basis for the education of early childhood, should be carried on beyond Kindergarten, 5304-15.

APPENDIX II. KINDERGARTEN—continued.

PRESERVATION GRAVES.

Describes the introduction of Kindergarten into the schools in Huddersfield between 1879 and 1882, 6122-3. In introducing Kindergarten in the West Somerset district, found it difficult to bring home to the teachers that the work should be co-related to the literary teaching, 6134-8. Explains the basis on which arithmetic is taught in the Kindergarten schools, 6156-7. Kindergarten is well taught in some of the Training Colleges, particularly the colleges where infant teaching is made a speciality; at the Westminster Training College it is taught even to the men, and with very good results, 6277-9.

FITCH.

Gives particulars of the recognition by the Code in 1881, of Kindergarten in infant schools, 6493-6. The introduction in infant schools of the Kindergarten occupations has been a distinct gain. It is the testimony of all the teachers that it has increased the happiness of the children, and by varying the day's work, has had a general beneficial effect on their intelligence, 6497-9. Describes the great difficulty encountered in the beginning with the teachers, who took up the work in a mechanical way. It was, from the first, made compulsory for female teachers in the Training Colleges. It is now taken in all Training Colleges, 6500-8. Distinguishes between the pure Kindergarten and the modified form adopted by the English Education Department. Does not approve of the American system of treating the Froebelian system as a thing wholly outside the ordinary course of instruction, 6509-14. Describes how, by encouragement and dealing gently with the teacher, the Education Department succeeded in introducing Kindergarten into the curriculum.

LAUNDRY-WORK.

DUGGLE.

Having established centres for manual training for the boys, the Joint Committee next established a laundry centre for intelligent instruction to girls in that subject. As a consequence of that experiment, the authorities of the Education Department came to see the work, and the subject was put into the Code in 1890. Then the London School Board began to establish laundry-work classes, and has at the present about 100 such classes, with about 4,500 girls under instruction, 4530-4. The School Board supplies the materials for the instruction, but under certain circumstances allows the children to bring soiled linen themselves. The system followed is to give one lesson per week. As the limited time will not enable a child to complete all the various processes on the same article in the one day, the rule is that at the succeeding lesson she should take up the operation succeeding the one she last performed, although not upon the same article. The hours are from 9 to 12 and from 2 to 4, for each lesson. Would not approve of the system followed under other School Boards, of devoting an entire work week each year to the laundry instruction, 4679-87.

DU POIN.

The subject is recognised by the Education Department at the 4th Standard. Does not consider the Department should recognise it before that time.

PRESERVATION GRAVES.

Instances the parents' appreciation of the work done in the laundry classes. It forms a most satisfactory connection between the school and the home, 6317-8.

KINDERGARTEN—continued.

Although made compulsory in the Training Colleges, at no time was the gaining of a certificate required as a qualification for teaching the subject. It is strongly opposed to special certificates, 5530-97. Where the pure Froebelian system is adopted, as in America and Holland, there is danger of the work becoming monotonous, 5674-8.

HANCE.

Considers Kindergarten is an expensive item of instruction, 7330-2.

BENKAY.

Has experience of the introduction of Kindergarten into the infant school in England. Speaks very highly as to its effects on training teachers, in developing intelligence, and in giving a much needed relaxation. The Froebelian system in its integrity is impossible in English schools. Considers the advantages of Kindergarten with reading, writing, arithmetic, the best system possible. Great importance should be attached to a gradation of exercises suitable to the pupil's age. Gives examples of suitable exercises, 9101-5.

HAWKESLEY.

Kindergarten is the basis of manual instruction. Describes the re-arranging of the Kindergarten instruction, found necessary, owing to the previous failure of the teachers to appreciate its educational aims, at the time when the Barrow-on-Furness School Board extended it, in order to bridge over the gap between it and manual instruction, 10083-95. Gives particulars of the syllabus and ages of the children in Kindergarten classes, in the infant schools and upwards, as it develops into head and eye training, 10091-3, 10263-6, 14611-4, 15233-5.

MRS. HOMAN.

Is Chairman of the Sub-Committee on Domestic Subjects of the London School Board. Amongst other subjects this Committee deals with laundry-work, which was the second of these subjects introduced, the first being cookery. There are now exactly 75 laundry-work centres staffed with superintending mistress and probationers. The Department's grant is 2s. There are four courses of laundry-work in the year, which it is optional for the same children to attend. The rule as to commencing at 4th Standard is relaxed for children over 11 years of age, but under Standard 4, 6321-50. The introduction of this subject without affecting the attendance of the children has been useful in encouraging them to stay on longer in the upper standards. There are 5,000 children on the roll of the School Board eligible for instruction in laundry-work, and 4,750 in actual attendance, or 95 per cent, which is far above the ordinary attendance, proving its popularity with the children. As far as possible the appliances used should be such as they use in their homes, and above all, the educational use of the subject should be kept prominent, 6356-66. The exercises which are carefully written by the pupils on this subject are not supervised by the ordinary school teachers, who have nothing to do with the laundry centres. Considers it would be desirable, if time permitted, that the ordinary teachers should visit the centres. The course is one of eleven lessons, one each week. Prefer, as is provided by the new regulation, the system of one half day a week during the year. Would not approve of the Barrow-on-Furness system, where an entire week once a year is given to the instruction, 6391-401. Under the London School Board the cookery, laundry-work, and housewifery instruction is all given on the same premises, but not in the same room, 6406-8.

LAUNDRY-WORK—continued.

MRS. LORD.

In organising superintendence of laundry-work under the London School Board. When it was introduced there was considerable doubt as to whether, although a practical subject, it could be made educational. The Department, after experience of the instruction given, is convinced that it fulfils this requirement. It is most important the laundry-work centre should be lofty and well ventilated, as the best is most intense in a crowded area. The dimensions for a minimum are 22 feet by 25 feet by 15 feet high. The number of girls allowed at a lesson by the Department is fourteen. There is a graduated syllabus of the course. States certain principles on which the grading of the instruction should be founded. Is strongly opposed to placing the work on a commercial basis, which involves on the teacher's part the necessity of getting through so much practical work in a lesson, that the educational part is left out. The girls have a short episode of the lesson given them on the blackboard, thus they copy in their notebooks. The teacher commences with a lecture at nine in the morning, and subsequently illustrates it by demonstration. Then finally the children do the practical work. Does not approve of the system of taking a large number of children for the lecture, and some time after setting them to do the practical work lectured on. The practice to be effective should immediately follow the demonstration, 6425-43. The temperature of the room should always be kept as low as possible, 6428-9.

MISS CALDER.

In 1890 the Government made a grant of 2s. a head for every girl who in the 4th Standard or upwards, should take twenty hours' laundry-work—that is, ten lessons. In Liverpool the lessons are always divided into two hours each, alternate demonstration and practice—taught by demonstration from the blackboard, and everything thoroughly explained. The girls get the grant for attendance without any reference to their proficiency, but the Government has now appointed an inspector of cookery and laundry work, who goes about to see the schools and colleges. It would be in the power of the inspector if she thought the thing was not up to the proper standard, to warn the school a first time, and probably the grant would be withdrawn if it was not remedied, 1366-8. As regards the materials, in Liverpool the children always bring a supply from their own homes. They are at first allowed to bring them, the teachers supply them in that event. Describes the steps taken to facilitate the introduction of the subject under the Liverpool School Board, 7440-61.

BURNATS.

Considers the introduction of this subject only possible in large centres, 9111-2. The difficulties of the introduction in rural schools are the cost of the apparatus and the payment of the teacher. The laundry-work as seen in the home is purely empirical; there is no scientific knowledge of the process or of the best methods. It would be a great advantage if a peripatetic instructor could give both laundry-work and cookery instruction in rural schools, 9185-7. The difficulty of having centres for these subjects in rural districts is the distance the children must walk, 9209-10, 9233-5.

GLANVILLE.

Laundry-work was introduced experimentally by the Joint Committee in 1888, in some old school buildings in William-street, Hampden-street. The Government almost immediately recognised it as a subject for a grant, 9929.

LAUNDRY-WORK—continued.

HAWKESIDE.

Under the Barrow-in-Furness School Board, in 1896, 523 pupils were taught laundry-work, 495 earned the grant, and the cost to the rates, over and above the grant, was 284 18s., 10107. The laundry school building cost £380, its fittings £18, 10113. The present course entirely satisfies the Board and the pupils' parents, 10132. Objects to the new regulation of the Education Department which says that girls shall only receive laundry-work instruction for a certain number of hours per week. As present under the Board each set of girls gets each year a full week's instruction, exclusively devoted to that subject. The Board profess this system as a result of trial in both systems. Under the international system the experience was that the girls did not bring the clothes for the week, and their attendance and interest in it was uncertain. This is not so at present. Finds they forget very little of what they learned in that one week when the next week comes round. They take up the subject in Standard 5 at 11 years of age, 10151-60. The grant for the subject is 2s. for 20 hours, 10191-3. The regulation complained of allows 8 hours' instruction in the week as the maximum in laundry-work. That would mean four mornings a week. The great difficulty in this is to keep the clothes in the condition in which the next operation can be taken in the following lesson, 10213-5. The same difficulty would not arise in cookery, as the operations in the latter must be completed in a very limited time, 10272-6. Under the Board, laundry-work has been taught for four years. The introduction of this, as well as of the other branches of practical instruction, has been experimental and progressive. There is no tendency on the part of the educational authorities to go back to the exclusively literary curriculum; experience proves that progress made in the ordinary school work is more rapid since their introduction; there is increased regular attendance; the children are better fitted for their work in life. The net cost of all these branches of practical instruction has been for 1896, 899 17s. 4d. At first there was strong opposition from parents to their children being taught laundry-work. This has now ceased to exist, and there is no desire to return to the old system, 10282-305. In the laundry-work classes the pupils bring their own garments, and there are certain school garments kept for use if they come without their own, 10306.

MISS ANDREWS.

Is instructor in laundry-work to the Barrow-in-Furness School Board. The object of this work is educational. Describes the object lessons given on materials used in washing. Takes care to supervise the notes of the pupils to ensure correct composition, spelling, and writing. Describes how this course of work stimulates increased attention, cleanliness, neatness, love of order, pleasure in bodily labour and respect for it, and an appreciation of good sound materials and workmanship, 10346-57. Gives the outline of an object lesson on water as an example of this phase of the work, 11358-61. Explains the advantages of getting the children to bring their own garments for the work, 10362-4. Gives an example of the object lessons, by means of which they are taught to distinguish good materials from bad, in garments, 10365-7, 10397-401. Gives the nature of instruction in the first lessons in the syllabus, 10368. The table used are ordinary movable iron baths, 30 inches long, arranged on stools. They do not hold more than two gallons of water. Two girls work at the same bath, and lift it when necessary, 10369-74. In the ten consecutive lessons' course, as employed in Barrow-in-Furness, the child begins with the garment and finishes it completely; washes it, irons it, dries it, and it does not get crumpled or dirtied by carrying it back and forward from home to school. Mrs. Lord takes the intermittent system and finds this difficulty.

APPENDIX B. LAUNDRY WORK—continued.

Considers further the advantages of the consecutive instruction as against the intermittent system, &c., 10375-88. The parents and children keenly appreciate the uses of handy-work. The attendance of the pupils is increased owing to its popularity, 10389-93. Considers in all its bearings the regulation which the

LAUNDRY WORK—continued.

Education Department has inserted in the Code, restricting the maximum laundry-work instruction to 8 hours in the week, and which seems calculated to render the consecutive system of laundry-work instruction impossible, 10394-5, 10402-3, 10430-3.

MANUAL INSTRUCTION.

BIRMINGHAM.

In Director of Manual Training under the Birmingham School Board, 3093. In Standard 5 the boys are sent to the woodwork, or metal-work centres, under specialist teachers. The number taken in a class is twenty-four, each class receiving one lesson of an hour and a-half a week. In these centres there are four classes held on each of the five days of the school week, 3100-5. The School Board has eight centres and fifty schools—six schools to each centre. Describes the exercises in Standards 5 and 6, in woodwork and metal-work. Every boy makes a drawing, which he works from. In both Standards 5 and 6, in wood and metal-work, the drawing is taught by the class teachers in the ordinary school, 3109. Outside Birmingham the drawing is often done under the workshop teacher. No certificate of drawing is insisted on in Birmingham, 3373-7, 3380. The drawing is executed from the model, 3319. Describes work done in Standard 7 in the Opposed Science Schools, 3110-12. One educational advantage of the wood and metal-work is illustrated by the initial difficulty the boys have in handling the tools, 3114. Gives reasons for preferring trained school teachers to artisans, 3127-8. The best teachers were in the beginning the strongest opponents of manual training, but, with an appreciation of its educational effects, they became its strongest advocates, 3129. Finds a difficulty with the specialist teachers of the work is to get them to go slowly and insist on accurate work. Would disapprove of a system exacting the same amount of work in the same time from each pupil. A graduated syllabus without a time limit is the proper system. Given the principles, perfect freedom of work should be allowed to competent teachers, 3130-3. Emphasises how the use of this training in producing intelligent artisans is recognised by trade employers: the child learns to apply the principles of knowledge to any trade he turns to, 3134-7. Given the cost of tools, materials, and equipment for a manual instruction centre for woodwork, and data for determining the cost of the building per head, also the salaries of the teachers, 3142-53. The grant of the Science and Art Department this year amounted to £1,000, 3159-206. Compares cost per pupil and grant of the Science and Art Department for the work, 3232-35. The net cost to the town of Birmingham for manual instruction is £700 per annum, 3288-91. Gives the cost per school, and the number of pupils receiving instruction, 3296-31. States the cost in the metal-work centres, of tools and equipment, 3186-7. The parents almost universally approve of the manual instruction, 3158-61. In Birmingham the subject is compulsory for all but those physically incapable, 3162, 3289-7. Explains distinction used in Birmingham between manual instruction and hand-and-eye training, 3165-5. Holds classes for training the teachers in one of the schools, and sends them up for the City and Guilds of London Institute Examination, 3177. The age of the children doing manual work is twelve or thirteen, scarcely over fourteen, 3197-8, 3281. Gives the genesis of manual instruction in Birmingham, 3236-43. Considers the best way to introduce it would be to give a course of lectures on the subject, and then get a teacher to instruct the teachers, 3245. A difficulty might arise in bringing in a specialist teacher where the system of class payments to the teacher exists. If each of the class teachers should give the instruction, taking their

respective classes to the common centre, a difficulty would arise, as was anticipated in Birmingham, in the divided responsibility for the tools, 3244-8. Distinguishes between manual and technical training, 3250-2. In Birmingham the boys attending the schools round the metal-work centres, must take up metal-work. Considers that the making of completed articles is not of any importance, except in as far as it gives the boys a design to interest them. In point of fact, they take a great interest in their work, and, when their mature period, have sets of tools at home, 3256-61. The hand-and-eye training in the lower standards is of great advantage as a preparatory course to the manual work, in teaching the necessity of accuracy, 3262-5. Manual training makes intelligent artisans whose knowledge of principles enables them to turn to many trades, 3262-72. The three metal-work centres were established, on his representation to the Board, in the districts where it is the principal industry, 3298. Considers it essential there should be one special inspector for each area in which such instruction is introduced, 3323-5.

REASONS.

As Head Master of one of the Board Schools, finds the children are made infinitely handier than they would be if they had not this training; moreover, they are taught the proportion of wood and iron, 3490-1. It also helps to decide a boy whether he will take up a workshop or a commercial career, 3493-4. It does not interfere with the literary instruction, 3500-2, 3512, 3554-7. Accidents with the tools are almost unknown, 3517. Know but one parent to object, 3518. Metal-work is more suitable to Birmingham, being the staple industry, 3519. In working in wood and metal, slowness is preferred to speed, because the latter is too laborious and tedious. This does not prevent many of the exercises involving plan and elevation drawing, 3531-3. Prefers one hour for the drawing of the work to two half hours, 3539. Explains how the official grant is paid. As a result of there being no grant for cardboard-work in Standard 4, there is a gap left, which is inadvisable, as cardboard-work is a splendid introduction to the manual workshop, 3547-53. In his school the Standard 5 boys go to the centre from 1.45 p.m. to 3.15 p.m. on Fridays, but in addition 35 minutes is given in the ordinary class to preparing the drawing for the manual work, 3559-60. Prefers the making of joints as practised in Birmingham to the making of completed objects. In the iron-work this principle is not always observed, but is also to be preferred. Believes that the 8000 system of models combines the educational exercise and completed object. The solid-heat iron-work might admit of art instruction, 3597-600. For the introduction of manual instruction into any school area, an organizer of the standing of Mr. Bown, in Birmingham, is absolutely necessary to secure uniformity and system, 3664-7.

JOHN TAYLOR.

The introduction of manual instruction has not interfered with the literary curriculum, 3695-700. The boys' parents quite appreciate the fact that it is not the teaching of a trade but of the general principles underlying all physical occupations, 3725-35. The children would regard as a punishment their exclusion from the instruction, 3738-9.

MANUAL INSTRUCTION—continued.

MAGNUS.

In 1886 read a paper at the British Association urging the introduction of manual instruction into elementary schools; it is not the teaching of carpentry—the carpenter's tools and materials only being used because they afford the easiest medium for the lessons which manual instruction gives. Woodwork should form an essential portion of the ordinary curriculum, and the purpose should be the same as that of the other subjects, the formation of the character. It is a means of training to accurate observation, truthfulness in work, &c., all of which are of the utmost importance to a child, whether he becomes subsequently an artisan, labourer, or clerk. The interest of the children in their school work is sustained by the introduction of the subject. To be excluded from it they regard as a punishment. Instances an experiment made in introducing it into Owen Barnett's voluntary school at Foyles Hall, 4166-72. Gives the origin of manual training under the London School Board, together with the history of the formation of the Joint Committee and the establishment of its centres, to which its successful issue must be attributed, 4173-8, 4215-6. At first there was fear of opposition from trades unions, but with the correct appreciation of its functions by these unions, this fear has been dissipated. The six centres of the Joint Committee still continue their work, while there are 104 centres under the London School Board, 4177-9. Approves of the discussion given in Birmingham between hand-and-eye training and manual instruction, 4180-3. In the wood-work instruction the lessons should involve work in grammar, composition, arithmetic, and writing, 4189. In the inception of manual instruction in London, the City and Guilds of London Institute started a class for training school teachers, under the Professor of Engineering, at their Central College, preferring trained teachers to artisans as instructors. The Joint Committee then placed three of their centres under Mr. Barker, an intelligent artisan, and the other three under Mr. Pearson, a schoolteacher. Mr. Pearson was, however, subsequently appointed organizer of manual instruction in Liverpool, and Mr. Barker was appointed organizing instructor under the London School Board. Compares the relative merits of artisans and school teachers as manual instructors. In London the experiment was not tried to a sufficient extent to determine their respective merits, and the instruction is mainly given by artisans trained in methods of teaching. In France it is given by the ordinary school teachers in their own schools, 4187-90. The constants in London get a special training in method of teaching from Mr. Barker. It is most important that a large number of teachers should attain the City and Guilds certificate, as it would otherwise be necessary in rural districts to introduce incompetent artisans, 4193-9, 4263. In 1891 the City and Guilds of London Institute framed a syllabus, being a two years' course of training for school teachers in wood-work, on which it awards a certificate. Gives particulars of this course and the number of candidates who were examined from 1892 to 1896, coming from all parts of the country. It is not open to any but school teachers. In the first year the students must attend a course of twenty lessons of two hours each, given on Saturday mornings throughout the year, 4191-3. The City and Guilds has now no classes under its immediate direction; as classes have been established in different parts of the country, it is not thought necessary to continue them, 4266. Distinguishes the educational function of manual instruction in wood from technical training in carpentry, 4207-10, 4269. From the educational point of view it would be useless to employ a rule of thumb artisan to introduce the work. If the instructor be an artisan he must be very intelligent, and undergo a course of instruction in method of teaching, 4211-6. Experimental science instruction cannot be considered a substitute for manual

MANUAL INSTRUCTION—continued.

training; but the power of constructing science apparatus will be necessary to the scientific inquirer. In any complete curriculum, provision should be made for instruction in both subjects, 4217-9. Experimental science affords opportunity for a higher degree of intellectual training than manual work, but of the same kind, viz., training in accuracy and judgment. Would not recommend them as alternatives, both should form portion of the curriculum. The experimental tendency is fastened by the one, constructive ability by the other, 4246-7, 4317-9. Would displace English grammar for either of them, as it can be learned sufficiently well from correctness in exercise, 4232-41. Boys trained in manual work will make more intelligent artisans, than if they had not been so trained, 4220-1. In London the pupils from the voluntary schools attend the same centres as the School Board pupils, 4232-4. Cannot say if the tendency of the boys to become clerks is counteracted by manual training, 4227-8. When metal work is the local industry, it may take the place of woodwork, 4229-31. A syllabus of work should be laid down, but freedom should be left to the teacher in working it out. The tools should be of the simplest character, and the work should be so varied as to permit of the use of as many tools as possible. A large amount of in-laying work should not be allowed. Artisan teachers should not be allowed to introduce trade tricks for short cuts, 4231-7. Drawing to scale is an essential part of the work, 4260-2. Two to three hours a week should be given to manual instruction, 4253-5. The benches are not necessarily expensive, but it is not easy to adapt the work to the ordinary school fittings. The only object in making completed objects is to interest the children, 4268-73. If introduced in Ireland the teachers should go through a two years' course at the Technical Schools in Dublin or in Belfast, or in the Science and Art Classes in Cork. The instruction could be given then by an intelligent artisan, as it is not so important to have a highly trained teacher to instruct the teachers, 4276-81. The students in the training colleges should receive instruction from a manual instructor brought from England, 4282-5, 4301-4. Those at present engaged in teaching should receive instruction from a trained carpenter; those who are untrained in drawing would also have to receive instruction in that subject, 4286-6a. The pupils could be taken, as is the case in London, in batches of 20, 4293-7. Not being a compulsory subject in the English Code, its adoption rests with the School Board, 4269-2. Some of the science apparatus might be constructed by the advanced pupils, 4316. In the training colleges the teachers should all be taught the elements of science, woodwork, and drawing. In small schools one teacher would have to teach all three. In the larger schools a teacher having an aptitude for one subject, could take it up. The number of school hours would require to be increased in Ireland, and perhaps a morning and evening session adopted in the schools, 4333-40. Manual instruction is superior to drawing as a training for children, as working in solid materials involves a knowledge of these dimensions. It also requires greater neatness and accuracy, 4357-8. Teachers should not begin to teach it before going through a course of training, lasting two sessions. If introduced into Ireland, instructors should be supported at first for the woodwork, while hand-and-eye work could be commenced on the lower standards, 4359-62.

LEULAH STANLEY.

It is of great importance that manual instruction should be treated as a development of Kindergarten rather than as an initiation to technical training, and that as much liberty as possible should be allowed to the different localities to frame and submit their own schemes. The business of the Inspectors should be to see that the instruction is done *fid*, rather than followed on official lines, 4369-75. The Inspectors

APPENDIX B. MANUAL INSTRUCTION—continued.

should have an intelligent knowledge of the tools and of their use, 4381-2. To introduce manual instruction into small rural schools in Ireland, having but one master, would present considerable difficulties, 4383-8. The grant of the Science and Art Department, of 2d. per attendance, amounts to a substantial grant. If the Inspector reports that the instruction is excellent a variable payment of 30 per cent. is added. This margin for results fees is not a very important element. It has its value chiefly as an index to the School Board of the efficiency of the instructors. The London system could be worked in Dublin, Belfast, and Cork, if there were local educational authorities, 4389-95. Manual instruction develops the intelligence and the interest of the boys, 4401-3, but is not superior to drawing, which should precede it and be coupled with it, 4403. The subject is not introduced extensively into rural schools, where it would require an enthusiasm with plenty of money, 4404-5. Under the London School Board the instructors get from £100 to £155 per annum, while the assistants begin at £80 and rise to £100, when they may become instructors. An instructor takes two classes, of 20 boys each, a day: which makes, for the five week days, 200 boys. The cost of wood comes to 5d. or 1s. per boy per annum. Given the experience of the School Board with artisans and class teachers as instructors. The grant of the Science and Art Department is 7s. or 8s. a head, which for 200 pupils would come to £70, considerably less than the teacher's salary, 4408-10. Some artisan-corporations make £3 per week, but the advantages of a constant salary, and of the school-holidays are great inducements to them to take up the work, 4432-4. The London School Board is trying to overcome the needs for manual instruction, but have not at present enough centres to accommodate all the children eligible, that is in Standards 5, 6, 7, and Ex-7. In Standard 4 such boys as are strong and able would be included, if sufficient accommodation was available. There are between 100 and 300 schools under the School Board with accommodation for about 500,000, and rather more than that number on the roll. The intention is to give manual instruction to all the older pupils, 4431-2, 4434-7, 4435-7. The number of centres is 104, of which 49 are double centres, this is equivalent to 153 centres accommodating 200 each, that is, 30,600 pupils, 4496-8. In two training colleges, the Wesleyan Training Colleges at Westminster and Borough Road, there is provision for manual instruction, 4438, 4468-70. Could not be given in rural schools during school hours, 4439-41. No subject has been displaced for its inclusion. To avoid trespassing on the 20 hours per week minimum secular instruction under the Code, the School Board provides for 4½ hours a day, and so is enabled to send the pupils to the centre for half a day weekly, 4443. Its popularity helps to secure a good attendance, 4444-5, and the literary instruction has not suffered, 4471. Distinguishes educational effects of science teaching and manual instruction: A course in drawing, elementary science, and manual instruction is suitable in Board Schools where means are available; but in small rural schools, under one teacher, it is entirely a question of ways and means, 4473-7, 4496-7. Finds that in manual instruction centres the teaching rapidly becomes individual teaching owing to varying ability of the boys, 4500.

DIAGN.

Has been Chairman of the Joint Committee since its inception. Gives its composition, purpose, origin, the funds at its disposal, and its history as the body originating the manual instruction movement in England, 4513-30, 4592-3, 4721-5. Describes the centre system in use under London School Board; gives the number of centres, instructors, assistants, and accommodation provided, 4525-30, 4726-31. Describes

MANUAL INSTRUCTION—continued.

the origin of metal-work centres now under the Joint Committee. Drawing enters into metal-work as well as into woodwork. The School Board has a metal centre at Thomas-street, Tower Hamlets, 4536-8. The six centres of the Joint Committee are now mainly used by voluntary schools, 4538-40. Gives a tabular statement of total number of children on rolls of the London School Board, number in each standard or class, number of girls in each of the upper standards, and number of boys in those standards, being the number eligible for manual instruction, 4541-53. Distinguishes work done in a technical school from manual instruction, 4573-4. Two advantages of manual instruction are, that the dull boy very frequently is quick at the work, which therefore brightens his school life, and that it keeps children longer attached. Gives tabular statement showing number of pupils attending in Standards 5, 6, 7 and Ex-7 in the years 1894, 1895, and 1896, being standards in which manual instruction is given, and showing steady increase in attendance each year, 4577-82, 4638-40. Teachers in English schools did not oppose introduction of manual instruction. Their objections to an over-crowded curriculum, are met by making it as elastic as possible. A curfew rule enforcing the same thing upon every school should not be insisted on, 4656-12, 4663-9. Subjects formerly compulsory are now optional, and where centres exist the manual work is a direct relief to the ordinary teacher, 4618-22. Certain parts of English analysis have been curtailed, 4697-8. All opposition from Trades Unions and educationists has died away; there is no proposal to return to the exclusively book-work system, 4618-3. The centre system is more convenient, as few schools can supply sufficient pupils to keep a workshop constantly in use. In the London schools, which have from 1,000 to 1,400 pupils, the largest might keep a centre going, 4628-7. The results hoped for is greater intelligence. The boys are not overworked, for in the 5th Standard the boy gets out of the "5 R's" and his time should be employed usefully. Results have more than answered expectations. Some of the proofs of its educational benefits, 4629-37. The majority of scholarships in technical schools are won by those who have had a previous course of manual instruction, 4650-61. For the average boy elementary science does not present the same attractions, 4670-7. The organisers of the work are officers of the Board, not of the Education Department. Voluntary schools have not at present the same opportunities for co-operative action as the School Board. To successfully start manual instruction requires a fairly large town, 4708-10. In training colleges it is neither desirable nor possible that manual training or elementary science should be included. After the teachers leave college they should be obliged to take up those subjects in evening classes at centres. Teachers having schools in rural districts should be taught the subjects by peripatetic organizing instructors. Strongly opposes the imposition of any further subjects on the present curriculum of training colleges, 4749-53. In country districts manual instruction has been organized through the operation of the Technical Committees of the County Councils, which organize classes in evening schools, but not in day schools, 4790-3.

SOLOMON BARTER.

As Organizer of Manual Instruction under the London School Board, has charge of the organizing and equipment of centres, and the inspection and teaching of teachers, 4824-7. Was originally an artisan, then a teacher under the Science and Art Department. Adverts to the failure of the Science and Art system to give the instruction a direct and intelligent bearing on the trade occupations of the artisan classes. When the City and Guilds of London Institute was endeavouring to remedy the shortcoming by supplying practical instruction in conjunction with Science and Art classes, its technical teachers discovered the

MANUAL INSTRUCTION.—continued.

absence of practical instruction in children coming from elementary schools. The product of the technical teacher, who found no time to work upon, led to the demand for manual instruction, 4823-30. Under the London School Board at first, the system was that each school teacher should take his class to the instruction centre, and himself give the manual instruction. This system broke down, as the teachers were insufficiently skilled, and could not attend to the tools and keep the workshop in order, 4830-1, 4836-41. In the commencement, school teachers were opposed to the subject. With experience they now regard it most favorably. The children like it, and it cultivates habits of attention and concentration, 4832-7. Much opposition was experienced from Trade Unions; this opposition disappeared when they appreciated that it was not the teaching of any trade. The technical teacher was equally emphatic with the Trade Unions that it should not be the teaching of a trade, 4838-42, 4920-7. At first the instruction was confined to making joints, grading the exercises in order of difficulty; but a short experience proved that the pupils lost interest in working at purely educational exercises, so the making of models or completed articles was substituted. The revival of interest, and accurate work turned out as a consequence, showed that "models" were to be preferred to "exercises." In France, where it is compulsory throughout the primary system, the work is all of a disciplinary character—the making of "exercises," 4843-5. Came in contact with the pure Sloyd or Swedish Sloyd later on. The educational feature of Swedish Sloyd is that it grades tool manipulations instead of models. It was unsuitable, because drawing was no part of the system. The strong point of the French system is drawing; but any Swedish system of models, even as at present, with the introduction of drawing, affords very poor drawing instruction—sometimes too difficult, sometimes too easy; the drawing is not properly graded, 4849-55. The drawing may be free-hand, or plan and elevation, but to be practical it must be from the model, not from a flat copy, and must be supervised by the teacher under whom the bench work is done. As the drawing is done, so the piece of wood should be cut up, line by line. Disapproved of the Birmingham system, where the drawing is done in the literary school. In London the drawing and woodwork are done simultaneously under the same instruction, 4856-63. The London School Board requires its teachers of manual work to hold certificates for plane and solid geometry, free-hand, model, and machine, or one other variety of drawing, from the Science and Art Department, and the certificate of the City and Guilds in the trade they were previously engaged in. If the candidate were previously a school teacher, he must get the City and Guilds' certificate for woodwork, 4864-70. Exemplifies the difficulties school teachers have in training manual instructors, 4871. Teachers of manual work should be allowed an intelligent freedom in arranging their scheme of instruction. No two boys should be forced to go at the same pace, 4872-3. Before being appointed to any centre the teachers attend his lectures, and are sent round to work for a few days at the centre, 4880-3, 4943-4. The agent which children should be, and are, admitted in London, to manual instruction is ten to eleven, corresponding to Standard 5, 4883. Approves of card-board work as a preparatory course for manual work. Recommends also clay-modelling for the same purpose, 4884-97. Three-quarters of an hour should be given to the drawing, and an hour and three-quarters to the bench work, 4898-9. The tools can be best purchased at Sheffield. The cost of equipment for a class of twenty is about £25. This equipment serves for 200 boys, and, subject to renewals, will last many years, 4899-905. The pupils should sharpen the tools themselves, 4906-11. Accidents with the tools are not of frequent occurrence, 4912. Where there is a large number of schools with large classes a double centre is

MANUAL INSTRUCTION.—continued.

more economical than a single one. Gives some particulars as to cost of materials, 4913-7. An organising instructor is necessary to supervise this work, 4917-8. If a boy goes to a trade that requires a highly sensitive manual perception he must begin early, and he must be properly trained. Employers prefer untrained boys to those who have been badly trained, 4928-35. Swedish Sloyd begins with the use of the Sloyd knife instead of the ordinary tools. The graduation in Swedish Sloyd is exclusively that of the tools; in English Sloyd there is a graduation of the tool manipulation, and also of the drawing. Condemns the excessive use of glass paper in Swedish Sloyd to cover defects in work. The points which Swedish and English Sloyd possess in common are that they are both concerned with developing the powers of the children, having a regard rather to the processes gone through than to the thing produced. In both, accuracy is insisted on; the articles to be produced are graded, and division of labour is not admitted—from first to last the child must make the article, 4946-71. Does not approve of mechanical assistance in the making of models, 4972-4.

Reviews.

Refers to the desire of German educational authorities about '80 to '85 to introduce some form of practical instruction. Visited Lappeo, Berlin, and Vienna at that time to observe the initial steps being taken to introduce manual instruction, 5051-9. On returning to Bradford, after conferring with the teachers, started an evening class for manual training. Gives the further progress of the work under the Bradford School Board, 5060-7. Swedish Sloyd differs from the English in introducing carved surfaces; some of their models are perfectly simple, while introducing lines of beauty. They are opposed to spending much time in making joints, making finished articles as soon as possible. The child must do the whole of the work himself, and the teacher is not allowed to rectify any mistake on the model itself, 5074-82. Later on they attach the necessary importance to having the plan of every model drawn to scale by the child before executing it. Considers the Swedish graduation of models unequalled, 5083-90. There should be no objection to any teacher arranging a set of models on proper principles, 5091-2. Another point of difference between the English and Swedish Sloyd is the use of the knife. There is no Sloyd knife proper; it is the ordinary knife of the country; an English pocket-knife of a good pattern is just as useful, 5098-101. In Bradford the introduction of the instruction was really a teacher's movement. All intelligent teachers appreciate the work. In Bradford the teachers were at first taught by an artisan, when they took up the matter for themselves, they preferred the Sloyd system, and about 100 of them joining together engaged a Swedish teacher from Naas, 5120-25. Looks upon manual instruction as an integral portion of the intellectual training of boys, 5126-7. Distinguishes manual from technical training, 5128-9. Illustrates the uses of manual training in cultivating that versatility in artisans, which will enable them to turn to diverse branches of industry; also as a preparation for technical work, 5140-9. The effect it produced in St. Mary's Roman Catholic School, Bradford, was to raise the self-respect of the Irish boys by giving self-confidence. The parents' appreciation of this experiment led to its adoption by the School Board, 5142-4, 5149-50. The work is popular with the people. Thinks that completed models should be made and not mere exercises, 5161-5. A few rural districts in the Isle of Wight take up Sloyd; but in rural districts it is chiefly confined to older boys in evening classes. Where there is but one master with 70 pupils, it could not be introduced, 5166-70, 5591-5. No subject need be omitted for its inclusion in larger schools: formerly there was a great deal of useless repetition in literary subjects which may now be removed, 5171.

APPENDIX B. **MANUAL INSTRUCTION—continued.**

At Leipzig there is a large training school established by Dr. Götze, and his system prevails over a large part of the country; prefers the Swedish system to both Leipzig and English. There is a degree of finish in the Swedish system which is very striking, 5284-46. In Swedish Sloyd it is hardly within the capacity of the children, unless well advanced, to project the difficult curves in drawing, which occur in the models. Models under the English system are very much easier, but the Swedish work makes the pupils really understand what finish is, 5288-93. There is no recognised system of English Sloyd. A great many English teachers have gone through the course at Naza, and their modified courses are simpler to teach than the original, 5249-51. When the voluntary schools can afford the expense they are willing to try the manual instruction, 5241-3. Prefer specialists to teach it in the towns, in country districts there should be some one to supervise the school teacher, assist him, and give advice, 5244. In the towns, would prefer workshops attached to each large school. The centre system to his knowledge works satisfactorily in Bradford and Southampton, 5252-4. Would like to see the subject introduced into training colleges, 5245-8, where it is not at present taught, 5271-2. The initiative of a change in the curriculum of the training colleges, as a rule, comes from the Education Department, 5280-4. To get time for the subject in the schools it is necessary to modify instruction in certain subjects, viz., geography and grammar. In England very little is now attempted in the way of formal grammar. Analysis of sentences and parsing is given up, 5255-41. Arithmetic being taught practically in manual instruction, less time is given to it in the literary classes, 5252-5. A teacher of manual work cannot supervise more than 20 pupils at the work, 5266. Does not consider it advisable that the pupils should make apparatus for science lessons in the manual training class. Their science master would however be able to utilise for that purpose their constructive skill, 5267-8. School teachers come annually from all parts to Aberystwith or Bangor and engage a teacher of Sloyd to spend six weeks there instructing them, 5286-7. Many pupils stay on in the Higher Standards for this manual work, 5287-8. Their intellect has been sharpened by it, which is partly due to their being taken in small classes, with more individual work under closer supervision, 5229-35. In the German schools it is not part of the Government programme. Its growth is due solely to the Leipzig School of Sloyd. There is less of it in North Germany and Russia than in England, 5284-8. Attributes superiority of the Swedish system to the fact that in the Naza School, in Sweden, they are constantly revising the exercises from the experience of teachers, with the aim of making a sequence like that of the propositions of Euclid. The Swedish Sloyd is adopted, with some small modifications, in Bradford and Southampton, 5232-43. Has not experienced any inconvenience from the regulation of the Science and Art Department by which the grant is not given where the Sloyd knife is used exclusively, as Swedish Sloyd does not restrict to the use of any one tool, 5244-8. Two hours and a half each week would be requisite for woodwork instruction and the drawing. This, together with provision for ordinary drawing and elementary science, would not in any way interfere with the present literary instruction, 5235-65. It would be impossible to introduce manual training under the results fees system, 5289-90.

DU PONT.

Has a large experience of manual instruction in England as one of the Chief Inspectors. Woodwork or English Sloyd is the prevailing instruction in London, where there is but one large metal centre, that at Marylebone, 5402-4, 5489. It lends a concrete tone to the arithmetical instruction, and a strong argument against calling it carpentry is that it is all

MANUAL INSTRUCTION—continued.

based on drawing, 5405, 5408. Under the former system of inspection, manual instruction could not have developed as it has done. All teachers now adjust it to be an untrained good, 5414-9, 5477. Artisans are almost exclusively the teachers under the London School Board. The speed of the work has been immensely helped by the new system of inspection, 5441-3. Dissents entirely from the unfavourable report of the Joint Committee, as quoted, 5444-9, 5469. Attributes absence of manual work in the training colleges to the inconvenience and difficulty which would arise in making the necessary adjustment in the timetable and curriculum, 5424-6, 5509-10. Instances the manner in which the subject was introduced into Berkshire as exemplifying how it should be done in country districts, 5435. In Westminster Training College it is carried on with great enthusiasm, 5486-8. The inspectors sometimes take the boys from Fourth Standard, at an age between ten and eleven, to learn manual work. It should not be introduced until the boys reach Fifth Standard, 5412-3, 5490-4.

BUCKMASTER.

The instruction should be, as far as possible, applied drawing, 5529-50. Gives particulars as to the tools to be used in woodwork, 5594-6. The Science and Art Department sometimes has definite system of woodwork, but takes any system put forward, with the reservation that the tools used must be those used in English handicraft. If the pure Sloyd is introduced, this exception is taken by the Department. The Department also objects to the use of sandpaper, which is used to cover defects, and is not a constructive tool. The Swedish knife is a knife with a fine blade, 5597-604. Does not consider that metal work is as useful, clean, or inexpensive as woodwork, 5605-6. The children in the manual instruction classes are able to understand and work from a drawing in plan, elevation and section, or an isometrical projection, 5610-11. As to the complaint of the Joint Committee that the children cannot write out descriptions of the work, considers that simple instruction in spelling, composition, &c., is given in the ordinary school, 5612-6.

JOHN COOPER.

Is Honorary Secretary of the Sloyd Association of Great Britain and Ireland. Describes educational aspects of manual instruction, and distinguishes technical from manual training, 5618-37. Sloyd is a way training for the hand and eye, graded scientifically on educational principles, beginning with working on paper, through that to cardboard, and then to wood and metal, 5638-40. A slavish adherence to any school of Sloyd should not be permitted, but teachers should be allowed freedom to modify any system to suit the requirements of their locality, 5640-1. Distinguishes "models" and "exercises," 5644-51. Explains the Swedish system of models and exercises, 5652-60, and how the knife case to be used as the primary tool in Swedish Sloyd, 5651-70. The object made must be entirely the work of the child's hand from beginning to end, 5671-6. The Swedish theory as regards the drawing is that the pupil must first make the drawing from the model—must work from the concrete, with experience the model is discarded, and he works from the drawing alone. The drawings are in plan and elevation, and in some cases sections, 5677-92. In Sweden the work is done by girls as well as boys, 5702-3. From 30s. to £3 would equip a class of 20 with benches and tools, which last a number of years, for relays of 20, 5771-8. The cost of materials amounts to 1s. 6d. per head a year, 5783. Under the London Board and the Horary Board in many schools the instruction is given in Standard 4. In Sweden boys and girls begin at ten years old. In the Gottenburg Schools they have smaller tools, 5778-83. The Science and Art Department looked the grant in several cases where the knife was used. By a new rule they require that

MANUAL INSTRUCTION—continued.

it should be withdrawn before the grant be paid, 4784-6. Strongly advocates selection of school teachers in preference to artisans. The system of taking artisans was abandoned in Sweden and in Manchester; the educational idea is kept prominent by placing the instruction under school teachers. Attributes the failure to obtain school teachers as manual instructors under the London School Board to the absence of assurances that in the event of the experiment failing they would be eligible for return to the ordinary school work, 5791-800. In Flax Garden School, Hamstead, each class teacher takes his own class for manual instruction, 5801-8. Increased efficiency in literary work results from manual instruction, 5824. Where School Boards have taken up manual work they find a difficulty in obtaining trained teachers, for in only two out of the 45 Training Colleges has it been introduced. The City and Guilds Institute trains large numbers of primary teachers. Took a course himself at the City and Guilds Schools, Exhibition-road. Their course should comprise instruction in the nature, preparation, and use of tools, and growth, nature, and use of wood, 5836-36. Has been through the Nass course, which is for school teachers only. The course is a six weeks' one, being 200 hours at the bench and 40 or 50 hours at lectures, and comprising about 31 models, 5842. A boy is not expected to have a complete Sloyd course in his school life, 5843. Defends the use of sandpaper in Sloyd as essential to finish in the model, 5735-40, 5848-51. Gives the time taken in completing some of the models, 5844-7, 5851-2. Advocates the use of the knife in Sloyd as the least mechanical of tools, 5853-5; also as being more simple to manipulate than any of the handcraft tools, 5862-5. In English Sloyd freehand drawing is not included, and is taken as a separate subject. It should be introduced, as in the case in the Swedish system, 5866-8. To train teachers of rural schools, peripatetic instructors should be employed to give instruction on Saturdays or in evening classes. The teacher could then teach the subject *per se* with the training, 5869-71. Explains the origin of the Nass Training College for Manual Instruction, the cost of the maintenance of students attending the courses given in various languages, &c., 5882-3. Was at the training college at Leipzig where he saw work inveterate in dimensions, allowed to pass, 5890-3. Decorative work is not encouraged in Swedish Sloyd, 5904-5. The pupils take a very great interest in the subject, 5909-10, 5914-7. Considers there is no danger of accidents in the use of tools, 5911-5.

VATGREN.

Gives some particulars as to the work of the Joint Committee on Manual Training, 5918-40.

PHECIVAL GRAVES.

As Inspector in West Somerset told the teachers, at conference, that manual instruction would soon be introduced; they accordingly formed a class in woodwork in order to qualify for the work, 6133-7. The "whiskey grant" was an important help to the introduction of practical teaching in England. The County Councils throughout England out of this grant make special provision for classes for teachers. A further consequence will be that these teachers can now look forward for promotion into Technical Schools as submasters, and also in country districts they can now teach this subject in evening continuation schools, 6158-67. Drill boys who excel in the manual work open up all along the line, and being a variety the subject provides a restorative change for them. Attributes the fact that the children are not able to describe in composition exercises the manual work they do, to the employment of artisans as instructors, 6182-200. Other advantages of this work are that it keeps boys longer at school, because it

MANUAL INSTRUCTION—continued.

interests them; they work with it in their homes, where it is a cultural influence, and they construct models for schools exhibitions. Prefers private exhibitions of the boys' work in schools to inter-school exhibitions, 6201-3. Finds that Irish boys in England in voluntary schools do not take to the English woodwork. Swedish Sloyd is particularly suited to the genius of Irish boys as they require to see results more rapidly than the English boy, and their art instinct is more gratified than in the case with English woodwork, 6206-10, 6275-6. Manual instruction is not taught in the training colleges because no marks are assigned for it in the Queen's scholarship and certificate examinations. Provision should be made for its inclusion. Would have it taught in Irish training colleges, 6279-81. Experts should also be employed to teach it in centres: these experts might award certificates, 6283-3. Where possible the manual instruction should be given in the ordinary school, 6284. The practice of getting the pupils to describe the processes they have gone through in the woodwork might be adopted as an exercise in composition, 6302-4. Parents appreciate the uses of the woodwork instruction, 6305-5.

FROM.

The importance of manual instruction should not be exaggerated; but writing proper limits it is a step in the right direction, 6515-7. That its importance is recognised by educational authorities is proved by its adoption in such public schools as St. Paul's, Clifton, Rugby, Shrewsbury, 6520-2. Is of great use, but it is possible to exaggerate its intellectual value, 6577-81. As between the centre system and peripatetic teachers the choice depends entirely on local circumstances, such as the nearness of the schools to one another; either system works extremely well. To have one of the regular staff, qualified to give the manual instruction, is most desirable, 6581-4. Strongly prefers that the instructor should be a teacher trained in the work, rather than an artisan, 6587-8. In rural schools with only one room, the use of tools is not advisable. Practical instruction in such cases should be confined to drawing, 6589-701.

HUTCHES.

Under the Harnsey School Board the manual instruction is given within each school, 6745-9. Not to have the building attached to the school leads the pupils to look upon the subject as disconnected from the school work. In Sweden they have a room for the purpose attached to village schools. Would not advise the use of movable benches, 6771-83. The movement for manual instruction has suffered in England by being confined with a movement for increased technical instruction. In manual work the intellectual and formative ideas must be kept uppermost, not the utilitarian aim, 6780-5. If introduced in Ireland it should be optional. If compulsory the teachers would oppose it, 6786-7. All practical training is comprised under the term manual instruction which is only an extension of the Kindergarten idea, 6788-92. Prefers trained teachers to artisans. In Sweden the attempt to teach with artisans failed entirely; now the head master usually teaches it in the village schools. The artisan considers the work, not the educational aspect, 6789-90. The cost of equipment for bench work would be £3 per scholar. This outlay would provide equipment exclusive of materials, for several years, 6794-8. Experiences the greatest difficulty in getting the children to describe, as a composition exercise, the why and the wherefore of what they do, 6801-4. The instructor should, if possible, be the class teacher, not a peripatetic instructor, or the latter must co-ordinate his work with that of the other teachers, 6805. Prefers completed models, where the exercises are expressed in

APPENDIX B. MANUAL INSTRUCTION—continued.

completed objects, to exercises purely. Condemns the practice of making models to illustrate science lessons, because graduation of the models and unity of labour are sacrificed, and the manual instruction room is regarded as "the school workshop," 6805-12. To insist on blind adherence to Swedish Lloyd would be contrary to the fundamental principle of that system, 6813-5. The small schools in Ireland are very similar to those of Sweden, where the instruction is given after school hours, 6832-3. Would prefer inspection by the Education Department to the Science and Art Department, as the latter does not aim at fitting it in with the general education scheme, 6816-7. The question would not arise as to whether the subject should be optional for the pupils, the difficulty would be when to exclude, 6818. Teachers who could not acquire a certain dexterity with the tools should not attempt to teach manual work, 6819-31.

OUTLINE.

Presented over the Joint Conference of the Liverpool School Board and school managers in 1889-90, to consider the subject of manual instruction. The Liverpool system is a product of evolution, gradually developing step by step, 6877-81. Is taught in centres, as it was found by experience that the noise and disturbance produced in being given in the ordinary school. A staff superintendent has charge of the centres and instructors. The Board received assistance from the University College, which established in its engineering school, classes for elementary teachers, and awarded certificates in woodwork and metal-work. There are some artisans teachers under the Board, but the artisan is not as well fitted to be the instructor as the school teacher. It is a subject in which boys are a bit boisterous, and all the controlling power which teaching ability gives, is required. The boys take a positive pleasure in the work, 6901-3. The average size of a school in Liverpool does not justify a room for manual instruction being attached to one particular school, 7078-83. The teachers who attend University College pay for their course of instruction, and on finishing receive a certificate which is recognised by the Board, 7124-7, 7154. The age of the boys is ten and eleven, 6904. The object of the instruction was to remove a tendency to depreciable manual labour. Hands in a list of boys who have become engineers, &c. Attributes this to the influence of the instruction, 6905-8, 7041. Gives particulars as to construction of centres, fittings, and cost, &c., 6909-24. Had great difficulty in the beginning in overcoming the opposition of Trades Unions, 6924. In Liverpool the making of completed "models" is carried out, not merely "exercises," 6927-9, 7047-49. This subject has vitified and quickened the pupils' apprehension of the literary work, 6930. The passing of the Technical Instruction Act stimulated the manual instruction movement, as the previous experience of the Science and Art classes clearly proved that to avail of the technical education provided, it must be preceded by a preparatory training of such a nature, 6931-3. Quotes figures showing that the attendance in the higher standards has increased since the introduction of manual instruction, 6934-58. There was no opposition encountered from the teachers as they appreciated its educational objects, 6949-55. Enumerates educational advantages of manual instruction, 6956-66. The School Board of Liverpool acted as pioneers in this work, 6969-7. As regards the practical side of school-work in Liverpool, as a result of the experience of several years, the tendency seems to be in a progressive direction, 7009-10. About two hours per week are given to manual instruction by each pupil. No subject was displaced in order to make room for its inclusion, 7015-8. The metal-work which is in an initial stage, is introduced in the third year's course, 7042, 7061-3. When starting,

MANUAL INSTRUCTION—continued.

the Liverpool School Board got their instructor to draw up a syllabus and they adopted it, 7048-6. The Board hope, by fitting the pupils to take up industrial work, that manufacturers may be induced to open factories in Liverpool, 7047-9. Manual instruction should shorten a boy's apprenticeship, if skill were the only consideration, 7069-73. Mr. Pearson, who came from London to introduce the subject, is director of manual instruction to the Liverpool School Board, 7142-7. That manual instruction is not taught in the training colleges may be attributed to its being largely treated as a specialist branch, and taught for the most part at centres by specialist teachers, also to the absence of any fund provided by the State for the training colleges to defray the expenses, 7151-4, 7161-78.

BASIS.

The introduction of manual instruction has furnished a preparation for technical instruction; tends to the prolongation of the school life, has increased literary efficiency, and proved a counteracting influence to the under-training of manual employment, 7194-206. The annual cost, upon the average attendance is about 17s. per head, i.e. cost of materials, fuel, lighting, teachers' salaries, &c. The capacity of the centres is, however, greater than the average attendance. The cost of the buildings constructed for woodwork alone is about £200 and they accommodate some 720 children, which puts the initial cost under £1 per head. The cost of a centre with metal-work, woodwork, and machine drawing equipment, is £1,500, and accommodates 720 for woodwork and 300 for metal-work, 7305-19. The details of the cost per pupil are 9s. 0½d., teachers' salary, is 3½d., materials, 7s. 4½d., maintenance; sinking fund upon building and fittings is 2½d. The total grant per pupil from the Science and Art Department is 6s. 8d. The net cost is therefore about 10s. The total accommodation is double the attendance, so that if fully occupied the cost would be nicely covered by the grant except that the extra material would be 1s. 3½d. for each extra pupil, 7319-29. In University College, Liverpool, Dr. Mele Shaw, M.A., Professor of Engineering, organised a course of Saturday classes in woodwork and metal-work for elementary school teachers, where at the end of one or two years they may obtain their certificates. There are now many courses for teachers in woodwork in England so that there should be little difficulty in obtaining suitable teachers for Ireland. Strongly urges the superiority of trained teachers to artisans, 7320-3. Explains provision for and changes made to pupils attending the Board's centres from the voluntary schools, 7323-5. In Liverpool manual instruction as well as elementary science, is an integral part of every child's course. They quicken the general intelligence and tend to prolong the school life, 7326-8, 7360-3, 7369A-92. The voluntary schools avail of the School Board centres. Their managers appreciate the value of the training, but cannot introduce it in their own schools on account of the expense, 7348-53. In the rural districts in Wales in connection with secondary education schools, the system of itinerant instruction is adopted: this system might suit the rural schools of Ireland, 7314-6, 7393-6.

BARR.

Came to Liverpool in the year that woodwork was introduced. Is of opinion it has been wholly for good, 7398-401. Metal-work is in an initial stage, only taught to children in 7th and ex-7th Standards, 7417-8. Time is made for the instruction by taking some time from a number of subjects, 7604-6, 7660-1. Each pupil has 1½ hours a week actual bench work and a half hour for the drawing, which is done in the ordinary school, 7657-9, 7697-701. The teachers have improved their methods as a result of the introduction of this branch of work, 7658-9, while it is one of the factors that go to make up the splendid

MANUAL INSTRUCTION—continued.

record of school attendance in Liverpool, 7670-6, 7692-6. There was practically no opposition from the teachers, 7695-6. To make objects in school with a view to an annual exhibition, tends to subordinate the educational processes to the production of the objects, 7703-6. The teachers for the most part enter into the true view of the work, 7707-8. Gives various reasons for preferring class teachers to skilled artisans as manual instructors, 7725, 7743-5. Enumerates points of agreement of the Liverpool system with Swedish Sloyd. The fundamental point of difference is that the former deals with abstract exercises to give the children some facility before approaching a complete object, while the latter uses the complete object from the beginning. The difference in tools is only such as ought to be found in two different countries, 7726-41. The ordinary teacher does not give the instruction in Liverpool: it is given by a specialist trained at the University College, 7741-23. All the materials are supplied free by the Board, 7803.

HURWITZ.

If the standard is fairly of one grade in woodwork, the teacher may manage 36 pupils at once, but if, as is the case, they begin to diverge very much, that number is too large 7864-7. Would prefer instruction of elementary subjects to manual training in Irish training colleges, 7915. The Technical Instruction Committee of Liverpool aids with grants the classes held for training teachers in woodwork and metal-work in University College. Explains the origin and composition of these classes, 7935-8. Distinguishes between manual instruction and technical training. In the administration of the Technical Instruction Acts it is found that pupils entering the technical classes are not properly equipped. The tendency has arisen to extend the use of the term "technical instruction" to this preparatory stage, which properly belongs to the elementary school, 7945-84.

PEARSON.

In Liverpool manual instruction is compulsory for every boy in Standard 5 and upwards. The "centre" system and not the system of having a room attached to each school, is adopted. Explains how it works out, 7967-9. In Standards 5, 6, and 7 the boys get 1½ hours per week at woodwork and a half hour's drawing taken in their own schools. In Ex-7, the boys get a whole day each week at the centre, divided as follows:—One and a half hour's machine drawing, one and a half hour's clay-modelling, and the whole afternoon for metal-work. The metal-work drawing is done at the centre. Gives reasons against taking up pure Sloyd, the principal being its difficulty and the consequent idleness, 7990-3. Explains in detail the exercises in his scheme, adopted by the Board, showing how they embody the principle that while manipulation is necessary to secure efficiency, it must be done in a variety of ways to avoid monotony, and also how each exercise introduces the use of a new tool, taking them in order of difficulty. In Standard 6 simple complete models are introduced, dependent on the exercises preceding them. The boys get as a maximum in their three years 198 hours at woodwork—about a month's work for an apprentice, 7993-6, 8103-13. In Ex-7 and Ex-8-7 they have metal-work. The machine drawing is not from the flat, they are required to realise what the flat drawing represents in the concrete, and so have models which they handle and take to pieces. Describes how the drawing is carried out, 7994. Gives cost of buildings erected by the School Board; also cost of tools, benches, lighting and heating, 7997-8004. Gives salaries of specialist teachers of woodwork. If the work-room were attached to the school a small additional payment to the ordinary teacher would suffice. The cost of materials comes to 1s. 3d. per head per annum, 8005-6. Recommends yellow

MANUAL INSTRUCTION—continued.

pine as the best wood, and therefore the most economical, 8007, 8064-6. There is an extra expense of one man to each four centres who is paid 26s. to 37s. 6d per week, or £18 to £20 per year, at each of the centres, for keeping the tools in order, 8008. Depreciation of tools and benches is very small, hardly 10 per cent., 8008-10. Is entirely in favour of trained teachers as against skilled artisans, 8011. States what training the teacher should receive, 8012-3. The impression that in Swedish Sloyd the knife is used exclusively, is wrong. They use all the Swedish tools, in the Swedish manner. Their great principle is that useful and completed articles must be made, to gain the interest of the pupils. Considers that the School Board's syllabus overdoes the Swedish principle better than the Swedes themselves, 8014-27. The chief point of divergence is the greater importance attached to preliminary exercises, devoted chiefly to make the pupils handy in use of the tools, so that they may perform any simple tool manipulation without conscious effort, which enables them to attain to expression and finish, 8028-32. Considers that in schools having only one teacher, if he be competent to give the instruction, it is purely a matter of arrangement as regards the time. It would be better to have it compulsory, as boys will not persevere at optional work if it shows difficulties, 8028-41. The classes for the training of teachers in the University College work satisfactorily, 8043-4. The ages of the boys in Standards 5, 6, and 7, are respectively eleven, twelve, and thirteen, with sometimes boys of ten, 8045. The metal-work, clay-modelling, and machine-drawing commences at Standard Ex-7, 8044-8. Would not approve of such occupations as weaving in schools: these are rather industries than educational exercises, 8049-50, 8113-4. The course is necessarily identical for each boy, but as there are differences of attendance, ability, and correctness, they cannot be expected to work at the same rate, nor is it insisted on, 8051-3. The drawing for the woodwork is done in the literary school, under the ordinary teacher. To have it done in the centre would be better, but is not practicable as it would necessitate doubling the staff and accommodation. The Board provides special drawing books in which manual instruction drawing alone is done. The pupils must keep the drawing in advance of the woodwork. The teacher at the centre initials the drawing when the corresponding exercise in woodwork is finished, and notes whether it is sufficiently in advance: this works exceedingly well, 8057-61. The scale drawing done in conjunction with the woodwork is not quite enough and should be taken up earlier, 8116-8. The machine-drawing from models could not be done in the schools on account of the special knowledge requisite in the teaching, 8068-9. Curved surfaces are a distinctive feature of Swedish Sloyd. Prefers dealing with curves in clay-modelling where there is ample opportunity for correction, 8069-6. The benches should be made to suit the height of the boys and the tools should be of proportionate size in proper dimensions, 8067-8. Mechanical aids should be avoided as far as possible, 8069-70. Could be most advantageously taken up in the Training Colleges, because it would be combined with method of teaching. If introduced they should give the certificate of the City and Guilds, the recognised examining authority, 8071-8. Earnestness of character which is encouraged by material difficulties in the instruction is carried into the literary work. Exemplifies the popularity of the subject with the boys, 8079-85. The woodwork could be taught by peripatetic teachers, who could not, however, carry the sets of tools about, because of their cumbersome nature. The schools adjacent to one another might have a common centre, and peripatetic teachers could take a number of these centres, 8090-5. Considers that the apprentice with manual instruction would become a very much better workman, and should be able to shorten his apprenticeship, 8096-7. Is confident the teachers would not oppose

APPENDIX B. MANUAL INSTRUCTION—continued.

the introduction of manual instruction; and gives attitude of teachers in Liverpool, 8098. Enumerates eight educational results peculiar to manual training, as compared with science training, 8099-100. In rural schools in Ireland the instruction could be best introduced by itinerant teachers, teaching in a centre where two or more schools were sufficiently close, and teaching in a workshop or separate schools where circumstances did not allow of a common centre, 8113-24. Would not allow attendance at the instruction to be optional for the pupils, as the school hours in Ireland are 4 hours, would recommend extending the time to 5 hours on one day in the week, 8125-7. As the Inspector in Ireland has not experience to enable him to inspect the work, would recommend appointment of specialist inspectors, 8129-30. Training of teachers could be carried out by establishing centres for Saturday classes where teachers could attend, having their travelling expenses paid. There should also be a recognized examining authority and a certificate. It might also be introduced into the Training Colleges and into the pupil teachers' curriculum. Is confident that qualified teachers would be qualified in a year if these steps were carried out under the supervision of an organizer, 8131-7. If at the Training College a hall could be provided, the plant would not exceed a cost of about £100. Would like to see it enter into the entire course of the pupil teachers, 8138-41.

NIXON.

Employing specialist teachers in the rural schools of Ireland would obviate the difficulty of getting the ordinary teachers to attend at central classes. As the teachers are men of fixed habits there would be great difficulty in getting them to take up the subject. It would have to be taken outside the ordinary school hours. Approves of centres established for several rural schools. If taught in the Training Colleges a supply of competent teachers would gradually be created. Where introduced it should not be carried on in the same room as the literary work. The English Education Department now insists that there shall be a second teacher where there are 50 boys. The 10 or 11 boys in one rural school eligible for manual instruction would necessitate separate supervision, 8270-91. Has no evidence of opposition from parents and little from Trade Unions, to the introduction of this subject. Finds that teachers will loyally co-operate to work out any system carefully thought out and proposed to them, 8282-9. Manual instruction should be given at the beginning of the school day when the masters are not tired, 8405-7. Amongst other causes attributes increased efficiency of the Liverpool schools to the introduction of manual instruction, 8410-6.

NIXON.

In Manchester manual instruction is taught in 18 elementary schools and 5 organized science schools, besides which there are 2 classes for training teachers, 8468-61. In the elementary schools it is taught after school hours from 4.30 p.m. to 6.30 p.m., or from 7 p.m. to 9 p.m. In the organized science school it is taught during school hours. It is virtually compulsory, 8462-5. In the elementary schools it has not suffered by being taken out of school hours. Would prefer it should be taken in school hours as the proper educational view of the work would be thereby better kept before the mind of the public, 8466-8. There is a staff of 5 teachers for the organized science schools, and 2 or 3 artisans are employed as assistants, 8466. In the elementary schools the ordinary teachers give the instruction, the general qualification being the City and Guild's certificate, in addition, to a special course of training under the superintendent, 8467-74. For the first three years, under the Manchester School Board,

MANUAL INSTRUCTION—continued.

his work was chiefly confined to training elementary school teachers, 8493-8. The work is popular with parents and also with the teachers, of whom 36 are now teaching it, 8592. These are all also engaged in teaching the ordinary classes during the day, 8430-41. Does not approve of artisan teachers, 8475-4. The maximum number of pupils taught at a time is 20, 8477. The benches used in the instruction rooms are all single benches. Explains arrangement and construction of rooms, 8478-82. The single bench arrangement prevents the pupils observing one another's mistakes, which leads to talking, 8562-3. The cost of fitting a room with 20 benches and tools for 20 boys is £50. This equipment serves for 12 batches of 20 boys. The average cost of timber per scholar is 2s., for drawing materials, 3d., 8483-7. Distinguishes manual from technical instruction, 8488-9. The drawing is done with class teaching. Gives particulars of the course and method of instruction in bench-work and drawing, 8490-514. The drawing is always taken in advance of the work, 8585. The drawing done in the ordinary course is not plan and elevation, working drawings, which begins in Standard 5 with the manual work, 8609-17. Sometimes they draw from the objects, by taking plan and elevation, first making a rough drawing; but generally they work from the blackboard drawing made by the teacher, 8620-2. In the elementary school the average attendance reaches 33; in the science school 49. Many come to the latter schools from schools where there is no manual instruction, 8614-6. In the latter course, models connected with practical physics have lately been introduced. If this were done to an unlimited extent it would destroy the sequence in the arrangement of models, 8617-20, 8618-9. The "centre" system is not adopted in Manchester where the instruction is given in a separate class room attached to each school, 8621-4. There is but one centre in Manchester, attended by 4 schools; the other schools go to their own rooms, 8577-8. Gives some particulars as to the tools used, 8544-3, 8546-9. Considers it of paramount importance to maintain the interest of the pupils that finished objects or "models" should be made, 8580. Prefers yellow pine to work in, 8581-3. Every boy goes at his own rate, 8584. The pupils learn as much in a year's manual course of two hours per week as an apprentice in twelve months, 8586-7. Finds the cost of the teaching is covered by the Department grant. The materials come to 2s. 3d. additional a head per year, 8588-92. The course of instruction is based on the series of Nais models, but it being impossible to teach the Nais course as a course in drawing, it has been remodelled in order to make the models according to their difficulty, for drawing purposes, 8529-39. In Swedish rural schools the teaching is done by the school master, and the instruction is after school hours. The work is given in the room in which the ordinary work is done, 8546-51. The Nais course being drawn up for schools where an average of four hours per week is given to the instruction, it is impossible with two hours a week to complete it in English schools. Sandberg is also used extensively in Swedish Sloyd, on account of the nature of the model. The English course avoids these models, 8570-6. Believes the theory in Sweden is that the child should commence at the age of ten years, not at any special standard. The work is also taught to girls in Sweden. It is a principle of Swedish Sloyd that the utmost possible degree of accuracy shall be obtained before sand paper is allowed. The need for using it is that the work deals very much with curved surfaces, 8623-33. Considers the instruction is spreading in the rural schools in Lancashire, the teachers show a great desire to take it up. The difficulty is the provision of the room and the fittings. It may be adapted to an ordinary room where light bench tops can be made to sit over the top of the school desks, 8554-8. The ordinary desk is not as a rule fixed to the floor, but being heavy it would not move with the panning, 8644-7.

MANUAL INSTRUCTION.—*continued.*

COURTENAY HODGKIN.

Up to 1891, when the Cumberland County Council first took up the work of practical instruction there was no manual instruction of any kind in the county, except at the Keewick School of Industrial Art. In 1891 to 1893 the Council commenced training the teachers of elementary schools in Saturday classes at centres, under the Syllabus of the City and Guilds of London Institute, 8687. The great difficulty in introducing the work into elementary schools in rural districts is that the managers will not provide the necessary appliances. Instances are one where the school manager did equip a small class room, which was however too small. The class numbered twelve, but there were only two large benches provided, 8648-75. In that school it was taken during school hours, the head master giving the instruction, 8670-3. The City and Guilds' Syllabus is restricted to elementary school teachers, 8675. The County Council gives a stipendium grant of 10s. to evening classes where manual instruction is taken, but is not allowed to assist elementary schools, 8677-80. Gives particulars of number of teachers trained at the three centres in 1893-5. The numbers declined, as it was found the school managers would not take up the work, with them it is purely a matter of expense, 8681-4; 8697-10. The unwillingness of the managers is due to the fact that the initial cost must be borne out of the funds of the school, not to say objection to the system, 8738-62. Objects to holiday or summer classes to train teachers, which are either purely a holiday, or a great strain on teachers who have been working all the year, 8690-1. The City and Guilds' course should not be restricted to teachers of elementary schools. If their course were open to all concern they should enforce an additional training in theory and practice of teaching. Their programme is not sufficiently comprehensive, and should comprise cardboard work, modelling in clay, repoussé work, etc., 8692-6. Considers the City and Guilds should extend their consideration to other than elementary school teachers, 8615-20. Would prefer the teaching of manual instruction to agriculture, as of more educational value, 8794-8. The manual instruction is taken in but few elementary schools; it is being taught in a few evening schools. The chief difficulty is the expense, 8811-15. The County Council in carrying out their scheme of technical education, find themselves hampered in their work by the absence of any preparatory course of practical training in pupils coming from the elementary schools. A graduated scheme of manual instruction commencing with Kindergarten, would supply this want. Gives the definition of technical instruction within the meaning of the Technical Instruction Act, 8830-45.

SLATER.

Up to 1894, was mainly engaged in organising drawing classes for teachers, under the Cumberland County Council. Since that time has also directed the manual instruction classes, 8891-3. The chief difficulty is the provision of a room. For the equipment of a room the minimum requirements would come to about 50s. per head. Does not consider the fitting of temporary bench tops to the ordinary desks a satisfactory provision. Approves of benches that fold down from the wall, 8903-14. Too much attention is paid to the practical work, to the neglect of the drawing, &c. Attributes this to the employment of artisans, 8917. Inspects the evening classes under the County Council, which are attended by boys who have passed the school age. The Council makes a stipendium grant to the attendance. Considers the grant of the Science and Art Department of 3s. per head to elementary schools, rather small. It will not cover the outlay for the first year. reckons 1d. or 1½d. per lesson per boy for timber, 8918-27. The expense of equipment for the teachers' classes was

MANUAL INSTRUCTION.—*continued.*

about £2 10s. per head, ignoring the rent of the room, which in all cases were school or other rooms, hired as such centres, 8934-6.

BRESNAN.

The best form of manual instruction is woodwork; where it cannot be introduced, owing to the expense of tools, fret-work may be substituted. Advocates a course in English carpentry as being less expensive and of nearly the same educative value as Swedish Sloyd, 9151-5, 9136. Drawing is not taught as portion of the woodwork course, 9217-20. Where the country schools are under School Boards it is impossible to get the farmers to increase the rate to enable such subjects to be introduced, 9230-2.

BATHMAN.

In Westmorland manual instruction is taught in fifteen evening classes, mostly in rural districts, and organised by the County Council. The County Council cannot assist elementary schools, but has in addition a manual instruction class for elementary school teachers whose fifteen teachers have been trained, 9271-92. It is taught in many of the day schools, 9293-5.

CHALMERS.

Approves of educational manual instruction, which should include drawing and the making of completed objects, 9705-8.

GLADSTONE.

A special committee of the London School Board on technical education, appointed in 1883, recommended amongst other things—"That it is not desirable to teach any special trade or handicraft in the schools of the Board," and, "That an experimental arrangement be made for the establishment of a class for the elementary instruction of boys in the use of tools as applied to working in wood," "but that the attendance be voluntary, and out of school hours," 9895-7. A result of this recommendation was that manual training was commenced at Beetham-street in 1883, but was not recognised by the Code until 1887. In 1886 the School Board approached the City and Guilds' Institute on the subject, and in 1887 the Joint Committee was organised. In 1890 the Education Department allowed it to be given as part of the school course, and the Science and Art Department gave grants for it. It was at first taken outside the school hours but now is given in the school hours, which are slightly extended for the purpose. Has no experience of its introduction into small rural schools. Metal-work was introduced with success into Canon Barker's Voluntary School in London. Manual instruction fosters accuracy and attention and is popular with the boys, and the work is often of a high standard, 9913-25. Considers that the educational value of manual instruction is not as great as that of elementary science. In larger manufacturing towns, perhaps, manual work is more important; not so in agricultural districts. Moreover manual work is a little costly, while elementary science is not nearly so costly, in the poorer districts that may be a matter of importance, 9941-2. The form of science in view is, of course, practical, where the children have opportunity of doing the work, each for himself, 9993-10003.

HAWKESIDE.

States the principles which must limit the aims of these organising manual and practical instruction, 10031-2. Under the Barrow-in-Furness School Board in 1886 over 1,100 pupils received manual instruction; 847 were presented for examination, and the net cost to the rates, over and above the grants of the Science and Art Department, was £37 17s. 8d.

2 X 2

APPENDIX B. **MANUAL INSTRUCTION—continued.**

Given particulars of the cost to the rates in the years 1892 to 1896, also the cost of equipping the School Board centre, which accommodates 80 pupils at a time, 10160-13, 10319-21. The requirement of the Science and Art Department, that the pupils should perform abstract exercises for the Inspector on the examination day, has resulted in loss of time and extra expense. Explain how this occurs, 10121-8. Before the annual examination a considerable time must be spent in performing examination tests. That is how the timber disappears. The boy must be trained to do the exercise in a limited time and as nearly perfect as possible, so he repeats it again and again, 10198-300. Would prefer inspection simply of the work in progress to examination. Gives an instance of the benefit of good inspection, 10253-6. Advocates metal-work for the pupils who have passed through the three years' woodwork course, 10128-31. The chief difficulty in the extension of manual work is its absence in the Training Colleges. This is remedied by having teachers' classes in woodwork, 10133. In Barrow-in-Furness the instruction is given to all boys in Standards 5, 6 and 7. They come to the centre, where there is a permanent staff of two teachers. Each teacher teaches twenty boys and if more than forty come at a time, an assistant master who has attended the teachers' classes, must teach the excess pupils, 10136-43. The objections to the use of an ordinary school-room for this instruction are the injury done to the school furniture and the litter created, 10143-7. Two hours a week are given to manual instruction, which was commenced under the Board in 1893. The work is increasing in popularity with the children and their parents, 10161-3. The modelling of curved surfaces in clay is a sufficient training for doing curved surfaces in wood, 10174-7. Prefer completed models to awaken the children's interest, 10189-10. The grant of the Science and Art Department which is 7s., together with about 10 per cent. raised from the local rates, covers the expenses of the woodwork. The class teachers get no extra pay for giving the instruction, 10194-7. The only objection to the use of the knife is that in Swedish models, its use continues too long, and it is a great strain on the hand. The good teacher should vary the exercises. The Swedish system changes the exercise even in the same model, 10201-7. The French system is practically the Russian system as elaborated at the Moscow School. At Leipzig they go through the abstract exercises to develop the power of using the tool and then they make the completed article. In America the making of completed things, not the performance of abstract exercises, which they call the Russian form, is the most approved for elementary schools. The great defect of the Russian system is that it is regarded as the work of the trade school, not of the elementary school, &c., 10204-12. Advocates that a large measure of freedom be given to the teachers in order that they may each develop his own syllabus,

MANUAL INSTRUCTION—continued.

10231-32. The aim of the French or Moscow Schools is to develop technical skill, and that of the Swedish School to educate the pupil. States some considerations affecting the use of the knife in Stockholm, 10233-43. Attributes the absence of manual instruction in the Training Colleges to the lack of sympathy on the part of the authorities and some senior inspectors. The literary work done should not prevent the introduction of manual training which affords a change of occupation, 10280-1. Since its introduction four years ago under the Barrow-in-Furness School Board it has been experimental and progressive. Approves of its extension. There is no tendency on the part of the educational authorities to go back to the former exclusively literary curriculum. Experience has proved the advantages of the new development. Instances how the progress in the ordinary school work is more rapid. The children are more interested in their work and acquire skill and dexterity of hand and eye. The net cost to the rates, over and above the grants of the Education and Science and Art Departments, for this and the other forms of practical instruction, viz.: cookery, laundry work and hand and eye work, for this and last year, was £39 17s. 4d., and a penny rate produces £780. Both parents and pupils are pleased with the work and they have no wish to go back to the old system, 10280-305. No subject of the literary curriculum was omitted for its introduction, 10340-5.

MOSES.

States the various reasons against making manual work a preparation for a trade, 10427-8. The condition of success is to make the subject interesting to the pupils; for this purpose the making of completed objects is essential, 10430-3. The work must be progressive, and a development of the hand and eye training, 10434-7. Prefer models to abstract exercises, 10439-42. Objects to the restrictions of the Science and Art Department which prevent the teachers having a free hand, 10443-5. Solid geometry is taught more intelligently to boys undergoing a training in woodwork than to boys not undergoing that course, 10446-7. Instances the advantages of this instruction as a preparation for trade occupations, 10448-9. The course is looked upon as compulsory in the Barrow-in-Furness Board Schools. Each boy works at his own rate. Prefers that the drawing, as in the case, should be done at the manual centre, 10450-4.

MARSH.

Was at Dr. Goetzn's Manual Training College at Leipzig in 1893. Visited several elementary schools in Leipzig, but could find no manual instruction in woodwork. This College has been established six or seven years for the training of teachers, 10460-70, 40475-84.

NEEDLEWORK.**EDWARD TAYLOR.**

Advocates revival of lace-making and art needlework, as a medium for art expression, 3291.

ROBINSON.

In Birmingham the needlework done in plain needlework and knitting, for which all the materials are provided free, 3536-7.

MAHONY.

Would approve of needlework instruction for boys, 4268-305.

ROOPER.

As Inspector obtained the assistance of a lady when he first began, but in time felt competent to deal with the subject himself, 5309.

DE PONT.

The needlework is admirably done in the Standards intermediate between the infant department and Standard 4. It is worked by demonstration lessons, the blackboard and demonstration frames being freely used, 5422-5.

FITCH.

Needlework is the most important and appropriate form of manual work for girls; there is, however, extremely little in it, as commonly taught, to draw out intelligence, or inventiveness, or mental effort of any sort. The time spent at mechanical needlework is excessive, and the making of garments in schools is turning the school into a workshop and neglecting the proper aim of the instruction. The only reason for

NEEDLEWORK—continued.

making garments should be to render the work more interesting. The two hours a day provision in Ireland under the Industrial Scheme is excessive. The time spent at the work should not exceed two hours an afternoon in the week, 6538-39. In English Training Colleges for women the inspectors of needlework visits each of the Training Colleges, and calls upon everyone of the students to give a lesson to a class of scholars. This ensures the educational aspect of the work being kept uppermost, 6540-1. There is no more reason for teaching dressmaking as an art by which a living is to be made than for teaching tailoring or shoemaking to boys. If taken at all it should be confined to the advanced scholars, 6563-5. The Code prescribes a graduated scheme in needlework and knitting from the infant school to Standard 6, and also one for female pupil teachers during the four years of their apprenticeship. In many schools an hour a day is set down for needlework, which means that the whole afternoon is swallowed up by it. A long period of time devoted to it may co-exist with complete mental stagnation, 6625-30. Quotes his views as expressed on the danger of too much importance being attached to the subject, where visiting committees of ladies regulate the work, 6664-73.

HUNSON.

Instances how in a mixed school the teachers of needlework carried the scheme to such an extent that the head master had to interfere and modify the scheme himself. The London School Board has introduced sewing machines into their evening classes for girls, but not into the day schools, 6166-8.

OULTON.

Under the Liverpool School Board, the time given to needlework is five hours a week. The danger of losing sight of the educational value of the work should be combated, 6194-9.

OBJECT LESSONS.

BOHNSMAN.

Drew up a scheme of object lessons for his own school in Standards 1, 2 and 3, as permitted by the Code, which only requires it to be approved by the Inspector. The instruction is popular and educational. Encourages children to make collections for the object lessons as explained, 3697-14.

ARMISTEAD.

The instruction in object lessons, used as an introductory course to science in the lower standards, is not founded on the scientific method. Instead of being, as they are, a description of the objects selected by the teacher, they should be a study of the nature of the object by the pupils. Proper inspection would remove this defect, 3781-5. The principle of instruction should be an extension of that employed in teaching botany; the children should collect, describe and examine the objects. Illustrates by examples, 3843-53.

LYDIPH STANLEY.

Under the Code of the Education Department there are very wide powers for substituting alternative courses of instruction in object lessons, which are the initial stage of elementary science. The Code itself suggests eight alternative courses, and, subject to the approval of the Inspector, the Department may recognise any other which may be submitted, 4378-9. Object lessons are now compulsory for all schools by the Code, 4449-52.

NEEDLEWORK—continued.

MISS CALDER.

Under the Liverpool School Board, the schools may give either forty minutes or one and a-half hours per day to needlework, 7427-9.

BRENNETT.

As an Inspector attaches no importance to the practice specimen produced, and it should not take the place of real mending, which should be insisted on. Finds great difficulty in enforcing the cutting-out of garments, which is essential. As a rule, the mistress practically cuts out the garments, and the children in the upper Standards, who should do so, seldom, really, undertake the work. This has been found out in the evening continuation schools. There is a difficulty in disposing of the garments made, which is only met where the parents themselves supply the materials. Plain dressmaking should be introduced in the higher Standards and in evening continuation schools. The teaching of needlework to boys in infant schools is now superseded by drawing. Regrets this in the case. Some of the boys will be insisted at doing needlework until it is explained to them that in training ships the boys have to make a patch or put on a button, 9113-3. In Standards 3 and 6 cutting-out in future is to be only on paper, according to the Code, and in Standard 7, cutting-out is omitted; as the Code is in opposition to dressmaking. Four hours a week should be given to needlework; anything over five hours would be excessive, 9188-98. The great difficulty in the way of dressmaking instruction in rural schools is the paucity of the teachers and the remoteness of the schools, 9224-9.

HAWTHORDE.

Complains of the system of inspection of needlework under which the Inspector instructs the teacher to give out bits of calico or flannel for the working of test exercises. This results in the girls spending all the time in practicing these useless exercises in order to acquire mere dexterity, devoid of educational value, 10244-42.

DU FOY.

Object lessons as given in England up to seven or eight years ago were almost everywhere general information lessons, calculated to fill the minds of even infants with answers to a great number of questions. Illustrates this from his experience as Inspector. The true conception of the object lesson was absent. The circular of the 23rd June, 1895 (Appendix ix., Revised Instructions to Her Majesty's Inspectors) is one of the finest productions ever issued by the Education Department. It is an exposition of what the best scientific men conceive to be the proper function of object lessons, 9498-501.

VAUGHAN.

Under the Code, object lessons are compulsory in Standards 1, 2 and 3; in Standard 4 and upwards, schools may practically continue the subject matter of the object lessons under the name elementary science, 9962-7.

OULTON.

Under the Liverpool School Board, object lessons provide a preparatory course to the science taught in the higher Standards, 6975. These lessons are given by the ordinary teacher, 7030-3.

HARVEY.

Object lessons have been taught in the Liverpool Schools for twenty years, 7310-2.

APPENDIX E. OBJECT LESSONS—continued.

BOY.

The scheme of object lessons taken in Standards 1, 2, 3 and 4, under the Liverpool School Board, was drawn up by Mr. Hewitt, as published in his "Elementary Science Lessons," 1829-39. About an hour per week is given to the instruction, 7751-8.

HEWITT.

The instruction is entirely in the hands of the ordinary teachers. The title of the manual drawn up by him and comprising the scheme of object lessons taught under the Liverpool School Board, is "Elementary Science Lessons, being a Systematic Course of Practical Object Lessons illustrated by simple experiments," published by Messrs. Longmans in 4 volumes, 1841-6. Sets of apparatus have been prepared for the lessons, and run from one guinea in Standard 1 to £2 16s. In Standard 4, which is the outfit requisite for a year's work for a class of about forty children, two lessons a week being given if possible. The centre principle is not employed in this instruction, which is given in each school supplied with its own apparatus. The renewals in subsequent years are trifling, 7803-903. Although he drew up this scheme he did not pass it upon the teachers, holding the ideal to be that the teacher to prepare his own scheme, 7947-8. The teachers received the necessary training in elementary science as pupil teachers when in training under the Board, 7956-7. The introduction of such a scheme into the curriculum of rural schools would present no difficulties, 7963-4.

NIXON.

Illustrates the necessity of sequence in the subject matter of instruction in object lessons, 8251-4. Elementary science was not in his experience taught in English rural schools. Object lessons and elementary science should be distinguished. The Liverpool School Board prescribes a course of object lessons quite apart from the scheme of science. The latter fulfils all the necessary motives of an object lesson, but the Inspectors do not adopt this view, 8375-66. The difficulty arises from the fact that the School Board insists on this course being taken in its schools as an introductory course in elementary science purely, while the Code stipulates that "Object teaching should be distinguished from instruction in natural science. In object teaching the chief interest should centre in the object itself," 8453-41, 8449-57.

BENNETT.

As Inspector finds that the object lessons are seldom illustrated in the rural schools on account of the expense, 9174-7. This difficulty may sometimes

OBJECT LESSONS—continued.

be removed by taking the objects themselves to illustrate the lesson, 9231-3.

CHALKERS.

Explains how the course of object lessons must be chosen with a view to their providing an introduction to some one subject taken up in the standard where they cease. Shows diagrams illustrating "Rocks and Tubers," "Dispersion of Seed," &c., used by him in the object lessons in the lower Standards. Describes his exhibits in agriculture in the higher Standards, and how it is evolved from these object lessons in the lower Standards, 9672-4, 9678-81, 9688-95, 9746-50.

GLADSTONE.

In June, 1871, shortly after its creation, the London School Board laid down the principle that object lessons should be introduced throughout the Standards, and that they should lead up to the science teaching under the Science and Art Department. Subsequently a scheme was drawn up for use from the infant school to Standard 6, which was approved of by the Board on 29th November, 1878, when instructions to teachers were issued. The course consisted of elementary instruction in physical science, introductory to the science course of the Science and Art Department. In the Code the first mention of object lessons appeared in 1880. The School Board supplied a little box of apparatus, necessary for the elementary experiments made, the cost of which was about 5s. A museum cupboard was also supplied to encourage the collection of objects, 9585-93. Perceptive experimental instruction is the highest aim of object lessons, 9589. Is of opinion that object lessons ought to serve as an introduction to science. Of the course recommended in the Code, prefers Course H, which is drawn up to teach principles rather than any special branch of science, 9943-53. The origin of object lessons dates back to Pestalozzi. Does not agree with the restrictions of the Code, as set out in the "Instructions to Inspectors," where it is laid down that no attempt should be made to treat the instruction as a continuous introduction to botany, zoology, &c. On the contrary, they should furnish the first step towards systematic instruction, 10014-18. Such subjects as the farm-yard and stable do not provide proper opportunity for object lessons, 10019-21.

HAWKESIDE.

The object lessons taken under the Burrow-in-Furness School Board are March's Scheme, which does not deal with elementary science. Would approve of a course arranged to lead up to elementary science, 10178-82.

SCIENCE INSTRUCTION.

ARMSTRONG.

First put forward his views on the subject of science teaching at an educational conference held at the Health Exhibition in 1883. Subsequently a Committee was appointed by the British Association, which collected evidence and formulated a scheme for science teaching in schools. All the reforms in this subject which have prevailed, have been forced on educational bodies by outside pressure, 3755-8. Give the objects to be attained by teaching boys and girls science. Points out the shortcomings of the present exclusively literary system, 3758-60. Is satisfied that science is not usefully taught through any of the "specific subjects" in the English Code, and that they do not provide a graded logical course of instruction. The Joint Scholarship Board urged on the Council of Education that should the "specific" not

be abolished, the Inspectorate department should call attention to the importance of the new course, called "Course H" in the Code, drafted by Mr. Gordon and Mr. Heller, under the London School Board, 3761-3. Names certain of the specific subjects dealing with science, which are taught on wrong principles, notably agriculture, which is more rote work. Course H in the Code has been framed to secure a proper system of science instruction, and is in use in the Tower Hamlets district, 3765-5. Given an appreciation of the principles on which such instruction should be given, courses could be framed which would allow of being adapted to the scientific requirements of a particular district, without making the instruction technical. In the case of girls they should deal entirely with the science of domestic matters, 3766-7. Condemns the present entirely haphazard training of school teachers and inspectors. The Train-

SCIENCE INSTRUCTION—continued.

ing College systems must be entirely reorganised, 3768-70. There is an absence of experience of science instruction on School Boards. The introduction of Course H arose from Mr. Gordon's appointment as Science Demonstrator, or teacher of the teachers, in one of the districts under the London School Board. He devised a syllabus of his own, which was successful in his district, and has been further developed by Mr. Heller, his successor, but has not been adopted in the three remaining districts of London, 3771-8. In the schools a special science equipment is essential, but the rules enforcing equipment should be as elastic as possible. Gives an example where the Science and Art Department insisted on a provision which was costly, unnecessary, and inconvenient. Draws attention to the absolute importance of having facilities provided for any science work, 3779-80. The science course should start with elementary measurements. The domestic economy course for girls at present means teaching a set of rules, instead of being a means of gaining information from observation and experiment. Refers to "Aims and Principles of Teaching," in which an exposition of his views on the subject appears, 3786-84. Owing to the habit which intelligent students fall into of using books, they are rendered incapable and unwilling to follow scientific inquiry, 3795-8. Manual training teaches measurements and mechanical execution, but does not give a scientific habit of mind, 3800-3. The difference between boys coming from schools where the scientific method is pursued—for example, St. Dunstan's College, Cardiff—and boys coming from the ordinary schools, is a remarkable proof of the superiority of the scientific method, 3804. Does not advocate science teaching so much as the scientific method in all branches of education, but in order to effect the reform it is necessary to begin by insisting on the scientific method in relation to science teaching. Press a large experience of pupils from the elementary schools, is of opinion that they possess a remarkable amount of information, but not education, 3806-20. Denies that the mental training by grammar, or the mechanical dexterity cultivated by hand-and-eye work, cultivate a habit of scientific inquiry, 3831-30. The principles on which Course H is drawn up are equally applicable to any syllabus on the science courses. There is a new course in domestic science for girls, which is founded on scientific lines. Illustrates his principle on "Science Teaching in Agricultural Districts" as a further example of the system proposed, 3831-4. It is generally accepted that a reform must be effected in the method of training teachers in the Training Colleges. Has had dozens of school teachers at the Central College, who have evinced the greatest appreciation of the work, but were incapable of working experimentally, 3855-8. The inspectors are equally deficient in an appreciation of correct instruction in science, 3840-2. Distinguishes humanistic and scientific training, 3854-5. Believes the teaching in the Tower Hamlets schools has been successful, and that many of the teachers are interested in its success, 3857-9. Would first teach children how to ascertain facts, and then subsequently give that instruction which is the imparting of facts, 3860-1. Two lessons of an hour each should be given each week to the work, which ought to be done by the children themselves without any lectures, 3862. The pupils in Standard 7 are quite advanced enough to take up specific sciences, such as chemistry. That portion of Course H which deals with arithmetic ought to be taught in the lower standards, in the ordinary arithmetical course. One organizer ought to successfully introduce the work, as was done in Tower Hamlets, 3863-5. Condenses the mechanism of labor in the Code, 3866-71. Illustrates the importance of using terms in chemistry, which involve only such knowledge as the pupil is in possession of at the time, 3873-9. Explains how the teaching of arithmetic should be made practical, 3884-6. The recent Report of the Committee of the

SCIENCE INSTRUCTION—continued.

Technical Education Board advocates the inclusion of literary work and drawing in the science instruction, 3888-9. Is entirely opposed to the system of teaching the principles of science and subsequently verifying them experimentally. Children should discover for themselves what the scientific principles are. Illustrates this by quotation from the Report of the Recena Committee, 3892-4. A scientific training is more especially essential for girls, 3897-9. The cultivation of the power of expression would not suffer by reason of devoting so much time to science training; on the contrary, its effect would be to improve it, 3900-4. The introduction of drawing, manual work, and the elements of science into the primary schools of Ireland, would not imply the dropping of any subject at present on the programme. The increased interest the children will take in their work, will make them more apt at all subjects; and will give a desire, which is now absent, of continuing their education in "Continuation Schools," 3905-9. In England at present some of the subjects in the lower standards are dropped for the inclusion of those mentioned, and experience shows that in the higher standards they are quite able to cover the whole ground, 3910-2. The great difficulty will be the training of the teachers, for the success of a system depends on the fitness of the teachers. The first and necessary step is the reform of the Training Colleges. The number of subjects taken up by the Queen's Scholars must be reduced. Certificate hunting and certificate worshipping, where men are selected for the number of certificates they hold, must be abolished. Prefers class teachers to teach science to specialist science teachers, 3913-22. Distinguishes the two systems of teaching—the humanistic and the scientific. In educating children would commence their education on the scientific method, and subsequently introduce the humanistic training. As children get older it becomes increasingly difficult to cultivate the scientific method in them. In practical work, if early cultivated, they show much more interest than they do at the same age in bookwork, 3949-57, 3981-9. Would replace geography and history in the lower standards by elementary science, 3938-41. Considers it would be unfair to have the certificates given in the Training Colleges on an examination of the students' power of teaching, at a period when they had not arrived at maturity. The evil consists in the examining for examinations to obtain certificates in, perhaps, a dozen subjects. Would limit the number to be gained during the period of training to two or three, 3945-51. Objects to the defects inherent in School Boards, which prevent advanced educational methods having adequate representation on such bodies, 3948-6. Advocates such a reform of the Training College system as would result in the certificate giving a guarantee of the power of teaching rather than of mere knowledge attained. If instruction on a proper system were given, it would not be necessary to teach method of teaching as a separate subject, 3957-74. The scholars should be first well taught, and then have their attention called to what constitutes good teaching. A certificate awarded on these lines should supersede the custom of men going up for the Science and Art Department's examinations, 3975-80.

MAYNOR HILLIER.

Gives the objects of the methods on which Course H is grounded. Considers the teaching of "specific subjects" where children are taught formulae, &c., without a knowledge of their meaning, 3983-8. In Science Demonstrators in one of the four districts under the London School Board, 3989-2. As such acts as organizer and instructor, visiting each school once a fortnight and giving a lesson to each class, 4004. Attaches great importance to accuracy, not only that the pupils should weigh and measure accurately, but

APPENDIX E

II

SCIENCE INSTRUCTION—continued.

that they should express accurately and completely the various processes in the experiments, 4028-32. The teachers of Course H all attend the classes for teachers held at the Mills End School for 2 to 2½ hours per week, from October to Whitenside; some taking one year's, some a two years' course. They attend on an invitation issued by him to them, at this voluntary course. Where they have not the advantage of previous training, they take none of the lecture given by him each fortnight to their pupils, 4085-43. The teachers gain considerable experience with but a short course of training, 4165. Gives particulars as to the extent of the adoption of Course H in schools under the London School Board, 4044-37. As organiser acts as an adviser to the teachers, 4049-50. The grant given by the Education Department for Course H is the usual grant for a specific subject, 2s. or 3s. a head, 4050. Hitherto schools have been able to gain grants also for elementary science from the Science and Art Department. For the future that Department will give grants only to organised science schools, 4058. Course H is not a course of chemistry or physics, but consists of a few of the most important and fundamental principles underlying the study of any branch of science, 4057-8. Describes the three stages in the syllabus of Course H, for Standards 5, 6, and 7, 4068-87. His method of training for the teachers is practically the same as that for the pupils. Describes manner of conducting the classes for the teachers, 4088-90. The objection is often made that the amount of matter taught in the course is insufficient; the answer is that the course is arranged not to teach many facts, but to teach the pupils method, 4091-3. The maximum number of pupils in a class taking Course H, is forty. The cost of equipment for 120 boys for the three years over which the course extends, is about £15. The cost of maintenance and renewals is about 18s. a year. The cost of apparatus and benches for the training of teachers at Mills End School is about £300, and renewals, about £20 a year. The balances used must be capable of weighing to $\frac{1}{100}$ of a gram, 4115-26. A large knowledge of science is essential to frame such a syllabus, and a constant supervision of the teachers by an organiser is necessary in the beginning, 4126-8. Distinguishes the educational value of science training, 4133-8. Illustrates how laws expressed in formulae, and many propositions in Euclid can be demonstrated experimentally on the system adopted in Course H, 4143-6. Would advocate introduction of both manual instruction and experimental science into Irish schools. Children must themselves perform the experiments, in order to learn the method of experimental inquiry. This latter cannot be taught by hand-and-eye training, 4167-56. For the present, peripatetic organisers can train the teachers, while its introduction into the Training Colleges would provide a supply of competent men in the future, 4155-60. A latitude in framing their syllabuses should be allowed to teachers showing a special aptitude in certain branches, 4161-2. Gives evidence of the increased intelligence of the classes, resulting from the experimental science training, 4163-4. Science training is, if anything, more important for girls than for boys. To that end the domestic economy course for girls in the Code must be completely remodelled, 4003-4. At present this course is taught from a text-book without any experimental demonstration of the facts stated, 4112-3. Science teaching in Training Colleges is at present confined to preparation for examinations under the Science and Art Department. Instruction in the method of teaching science is unknown. No effort is made to put before the teachers in training the question of how science should be taught. This system of sending them in for Science and Art certificates must be superseded by experimental work done by the teachers themselves. Finding it harder to get teachers who hold these certificates to adopt the scientific method

SCIENCE INSTRUCTION—continued.

in science instruction than to train those who have not before taken up the subject, 3999-4003. They at present learn nothing which they could not get out of an ordinary treatise. There is a special prejudice of the method of teaching in Training Colleges, but he does not instruct in science. A good teacher of science will, in teaching, teach also how to teach the subject. This would be sufficient provision. The amount of scientific knowledge imparted is of secondary importance compared with the power of teaching and familiarising his pupils with the habits of experimental inquiry, 4097-97. The Science and Art Department have in recent years framed their questions to prevent mere book-work enabling students to pass the examination; but the Department pays no attention to the method in which science should be taught to the children, 4130-2.

MAGNUS.

Agrees with Professor Armstrong as to the necessity of elementary science instruction in primary schools. What is of greatest importance is that the children should learn the methods of science rather than the information which science instruction gives. Both the science instruction and the manual work should involve instruction in composition, grammar, and arithmetic, 4183-7. Experimental science instruction is not an alternative for manual training. The power of constructing science apparatus is extremely useful in science work. In any complete curriculum provision should be made for instruction in both these subjects, 4217-9. Would omit English grammar for the inclusion of either of them, 4231-4. Some of the science apparatus might be constructed by the pupils advanced in woodwork, 4216. In the Training Colleges the elements of science and woodwork and drawing should be compulsory. In small schools one teacher would require to teach all three subjects. In the larger schools teachers having an aptitude for one subject could take it up. The number of school hours would require to be increased in Ireland, perhaps a morning and evening session adopted, as in England, 4233-40.

LESLIE STANLEY.

There are very wide powers given by the Code for submitting alternative schemes of elementary science. Any scheme submitted by the manager of a school and approved by the Inspector is recognised by the Department. The only restriction is that the course adopted must not be unsuitable to the locality. An Inspector has a power of veto, as for instance when it is proposed to teach agriculture in London schools, 4376-89. Approves of the Course H of Mr. Gordon and Mr. Heller, especially for the lower classes, 4396-400. Elementary science is now compulsory for the lower standards. The London School Board does not insist on all schools taking Course H, which comes in more for the higher standards. In London, elementary science is taught in 216 out of 834 Senior Departments, 4442-56. Hitherto the pupils of Standard 7 used to gain science grants also from the Science and Art Department. This for the future will be impossible as a new rule precludes their doing so, 4461-3. Distinguishes the mental training of science teaching from that given by woodwork. Incidentally Course H exercises the pupils in accuracy, but its primary aim is to enable children to grasp scientific facts by concrete observation. Nevertheless it is only in large centres such as a school board centre, that these subjects should be insisted on. In small rural schools it is entirely a question of ways and means, 4473-7.

DISCUSS.

Elementary science is more expensive, and for the average boy does not possess the same attractions as manual instruction. The chief value of Course H is its educational influence on the teachers, 4470-2.

SCIENCE INSTRUCTION—continued.

Manual instruction ministers to a larger need, and is the better course for the ordinary boy. The cost of such balance used in Course II, is 30s., and Mr. Heller wishes each child to have one. This has not been accorded to by the School Board. The use of Course II is to teach the teachers sound methods. A great deal of the present success is attributable to Mr. Heller's own ability; in the hands of an ordinary teacher it might not be so attractive, 4732-43. As regards the training colleges it would not be advisable to largely increase their present curriculum. Elementary science and the extra subjects of practical instruction can be taken up by the teachers subsequently to their course of training, in evening classes at the various centres. In rural districts where such centres are not available, organising teachers must be appointed to teach these subjects. They would be permitted to teach in instructing both pupil and teachers, 4749-53. Strongly opposes the introduction of any new subjects of instruction into the present training college curriculum. The literary instruction given therein is a higher form of mental culture than any branch of practical instruction or elementary science, 4764-83.

ROOSES.

In all elementary schools practical experimental science should be taught, the children performing the experiments with their own hands. The balance is the principal item of cost in science apparatus. Has recently described in a paper read before the Royal Association, a most delicate balance which may be constructed for 3d., the idea of which he got from Germany, gives examples of its economy, 5145-60. It is desirable that a teacher should have freedom to give science instruction in any branch he should be specially qualified in. It is on this principle that the alternative courses in the Code have been drawn up, 5224-9. Considers that a feature of science instruction is the importance as an introduction to all kinds of modern industry into which it enters. Manual instruction does not fulfil this function, nor excite a spirit of investigation, 5351-4. Useful instruction in science should be given in one hour each week, and provision for this and other subjects of practical instruction named would not interfere in any way with literary proficiency, 5350-5.

ROCKMISTERS.

The Science and Art Department confines its inspection in elementary schools to Organized Science Schools, 5617-5.

PERCEVAL GRAVES.

Approves of the teaching of elementary science in the schools, and considers also that practice in composition should be included by requiring the children to describe the experiments in writing, 6396-401.

FUCH.

In the training colleges there should be provision for model lessons in science, 6402.

BRIDGES COOKE.

Didactic teaching should be done away with. The observation should be trained by experiments, which is only an extension of observation. Condenses science teaching that consists of merely taking textbooks and giving lessons, telling what is to be done and expecting the children to repeat it, 6843-8.

OULSON.

The organization for science instruction under the Liverpool School Board consists of one superior science demonstrator with assistants under him. There is one centre which serves as a kind of central chamber

SCIENCE INSTRUCTION—continued.

where the demonstrator instructs his assistants, and where all the apparatus is kept. From this centre the apparatus is taken to the various schools, and the assistants move from school to school to give instruction. Encouragement is also held out to the ordinary school teachers by giving an addition to their salaries on passing an examination held by the chief demonstrator. Considers the system could be used in Ireland when the ordinary schoolroom could be used, provided an hour were fixed for the instruction, when those not receiving instruction could be dismissed, 6886-909. This system does not differ very much from that, as described, which was carried out in Ireland forty years ago, 7123-33. The principle of instruction adopted is to teach the children the principles or the facts of science by means of experiments performed by the instructor. Considers the children are too young to work out the experiment, by themselves, 6889-9. The extra grant given to the ordinary teacher for taking up science instruction, was a valuable stimulus, 7020-5. The assistant science instructors tried for advancement to the positions of increased value in connection with technical instruction, for which they will be qualified, and which are now being founded with the aid of the grant, 7023-4. Considers that manual instruction would not be a substitute for science instruction, 7028-9. The science instruction by the demonstrators begins in Standard 4, 7030. The object lessons taken in Standards 1, 2, and 3 are really a preliminary introduction to science. They are given by the ordinary teacher on a scheme drawn up by the Board's science demonstrator, 7031-3. The various syllabuses in which the assistant demonstrators lecture in the succeeding standards, is called a course in mechanics, 7034-6. Following the introduction of elementary science in Liverpool, passes in ordinary literary subjects rose considerably. The teachers say the children are brighter all round since its introduction, 7059-65, 7153-60. Would include both science and manual instruction in any curriculum for primary schools, 7056-8.

HANCE.

In the more advanced science instruction, instead of the teacher going to the school, the scholars go to the central laboratory, 7201-3, 7231. The instructors are almost entirely elementary school teachers who have devoted their entire attention to the subject, 7220. At the time when science instruction was introduced into Liverpool, the ordinary class teachers would not have been capable of giving the instruction with apparatus. Now, an increasing number of class teachers have acquired during their training a sufficient facility and grasp of science to be able to take it up in their own schools. The Board encourages this system, while instructing the class teacher to the special supervision and direction of the director or chief science demonstrator, 7231-5. The science instruction in Standards 5 to 7 is compulsory for all boys, as is also the manual instruction. It has a quickening effect on the ordinary work, and, besides, tends to prolong the school-life of the children, 7236-8. Mechanics forms the basis of the instruction for the boys, and was chosen under the inspiration of the late Professor Huxley, developed, as he suggested, in the direction of physics, 7239-41.

HUGH GORDON.

Science instruction should begin for boys when they first go to the elementary school and, from the first, should include practical work. Such work includes the simplest kinds of measurements, &c., in learning, which methods of great importance may be introduced. In learning arithmetic also great importance should be attached to the method. The pupil can have a ruler divided into inches and tenths, and can be shown how to add these up by taking additions and subtractions by means of lines, he can

APPENDIX B. SCIENCE INSTRUCTION—continued.

In that simple way learn what is meant by the decimal notation, and so on to measurement of areas, weights, &c. The great difficulty is with the teachers, who have little real knowledge of the subject. Used originally to give demonstrations in the schools not so much for the pupils as for the teachers; then the teachers making use of that demonstration gave instruction for a fortnight, at the expiry of which he advanced another step. The teachers who had done so scarce before were the easier to teach in this way, 7477-80. Recommends such a system in introducing the subject, 7533-40. The apparatus required for science instruction, which is of the simplest kind, would cost £10, and £1 a year for renewals, 7481-2. It is of the utmost importance that before girls take up cookery or domestic economy they should have some practical instruction in science. The effect of the teaching under the present syllabus of domestic economy is that the girls become like encyclopædists, which may be examined, and some true and some false statements collected. Girls do not take up elementary science in the primary schools, but in Organized Science Schools they do the same practical course as the boys. They do it nearly as well, so that if introduced in the primary schools they should be equally able to do it. This course, however, should lead up to cookery, &c. The ordinary school accommodation will do quite well for science instruction if there are cupboards and strong tables, 7483-91. Describes systems by which one teacher should be able to take seventy or eighty pupils in a class in elementary science, two boys at a time during the experiments, 7482, 7483-8, 7564-5. Unnecessary repetition in the work is a great mistake; the subject should be done thoroughly and slowly, but not hurried over with the object of repeating it until impressed on the memory, 7486-9, 7546-51. If the children are left to do these scientific experiments for themselves, it involves mental training, as well as manual training, and would supply the place of the latter to a certain extent, 7503-4. In training colleges there is no practical work of any description; the fact of the principals being classical men may have something to do with it, 7507-10. Would advocate organising prospective teachers coming to certain centres and instructing the teachers, 7513. Attaches little importance to a lecture illustrated by the teacher, which is the system of the Science and Art Department. This year that Department recognises practical instruction in physics, and gives as high grants as can be obtained in practical chemistry, but this provision extends only to the Organized Science Schools, 7514-8. Has published a syllabus on practical work now published in the code as "Course II," 7511-2; and has introduced it in the Rutland-street and Berners-street Schools in London, 7519-21. Does not altogether condemn the system of science instruction by lectures, but considers the lectures should only be supplementary and subsequent to the practical work, 7522-8. The boys should be first set to experiment at a definite problem, 7529-32. The introduction of elementary science of the nature advocated is a much less costly business than the introduction of manual instruction, 7500-2. But when possible it is of very great importance to have both, 7511-5. As between the two, prefers science, 7577-8. In the case of the third year students of the Organized Science Schools the science apparatus to a certain extent is made by themselves, 7566-71. Agriculture should certainly not be taught in Irish primary schools. It is more rote work. Would substitute a course of experimental science planned to lead up to agriculture, 7553-60. Prefers his system, as worked in the Tower Hamlets Schools in London to the Liverpool School Board system, 7561. The balance is one of the chief educational features of his system. Does not think that any but the most accurate and delicate balances should be used, 7562-3. Would commence this practical course from the beginning, in Standard 1:

SCIENCE INSTRUCTION—continued.

the rule should be used in that standard: the rule should have centimetres on one side, and in this way the metric system would gradually supersede the present system. At present Course II is only taken up from Standard 5 upwards, 7572-6. The object of this actual experimental work by the children themselves is to induce a scientific habit of mind, to give the child a good practical hold of the scientific method, 7573-84. Would modify the instruction in grammar for inclusion of this course, 7585-6. Any system of science instruction under which there would be no guarantee of experimental work being done in the school, and under which a written examination only would be held, would be useless, 7587-8.

BOYS.

In Standards 1 to 4 the Liverpool School Board has a course of elementary science lessons, which is taken as a "class subject." The course was drawn up by Mr. Hewitt, and leads to the mechanics course for boys and to the domestic economy for girls in the succeeding Standards. The scheme was specially approved of by the local Inspector, but does not appear in the Code of the Department, 7628-9. The apparatus should be of the simplest kind possible, and as far as possible made by the children themselves, 7708-11. The balance is costly, but as a rule the children are not called on to use it, 7712-4. In Liverpool it is not found possible to permit children to perform the experiments themselves. They see the experiments, which are such as they might do, but with a class of sixty it is not found possible to let every child do the experiments, 7715-7, 7762-6, 7945-6. When this preparatory course of science lessons was inaugurated by Mr. Hewitt, he gathered the teachers together, gave a few lectures, and overlaid the work, 7749. The School Board supplies all the necessary appliances gratis, for the science instruction, 7892.

HEWITT.

Was appointed to organise the science instruction in the upper Standards when, in 1877, the School Board took steps to introduce the subject. It was resolved to introduce the system of visiting teachers for Standards 4, 5, and 6. In the case of boys' classes the course chosen was mechanics, in that of girls it was normally domestic economy, but really the fundamental principles of chemistry and physics, as a foundation for domestic science, 7806-9, 7813-7, 7812-3. Later, as a result of the Report of the Royal Commission, the Board decided to introduce elementary science in the first three Standards to bridge over the gap between the object lessons of the infant school and the science in the upper Standards, 7818-20. In the commencement he experienced slight opposition from the teachers, as being an outsider. The entire science teaching in the upper Standards was placed in the hands of specialists. The object lessons leading up to this, when introduced in the lower Standard, were given entirely by the ordinary teachers. Drew up the preparatory scheme for the first four Standards, published "An Elementary Science Lessons, being a Systematic Course of Practical Object Lessons," 7832-46. As an essential part of the movement, the Board had established science classes for their pupil teachers, so that when the lessons were introduced in the lower Standard, the younger teachers had had a certain amount of training, 7846-7, 7956-7. In the training colleges the work in science is confined to studying the Science and Art Department's syllabus, and the teachers are not trained in the method of teaching science, 7848-53. The introduction of laboratory practice would be largely facilitated in the training colleges if some grant were available, such as the School Board can obtain in the case of pupil teachers, from the rate, 7855-60. For the course of elementary science taken as object lessons

SCIENCE INSTRUCTION—continued.

under the Liverpool School Board, the cost of the apparatus is £1 in Standard 1, to £3 14s. in Standard 4. The lessons should be given twice a week. Each school is supplied with its own apparatus, which however does not be idle, as object lessons are given every day in some of the classes. In subsequent years there would be very little expense for materials, 7993-902. In the upper Standards, where science is taught as a specific subject, the apparatus is taken round by the specialist to the different schools, 7998, 7903-5. Would advocate the introduction into the training colleges in Ireland of experimental science work in a physical laboratory, rather than a course of manual training, 7915. The Liverpool Technical Instruction Committee aids with grants the central classes for the training of pupil teachers in science subject and in drawing, 7935, 7939-41. Approval of pupils being allowed to a teacher to work out a scheme of his own, 7947-8. Considers the introduction of this elementary science in the lower Standards, offers no difficulties in rural schools, 7953-4.

Lomas.

The specific subjects taught under the Liverpool School Board are mechanics for boys and domestic economy for girls. While the lessons are given in the individual schools, there are two centres in each of which a first assistant is responsible for the apparatus sent about from school to school, 8143-4. To secure competent workmen demonstrators, it was found necessary to disregard the number of certificates an applicant might have, and to test their teaching powers in every case, 8145-7, 8184-91. The lessons are forty minutes each, the class teacher stands by while the specialist gives the lesson and during the week the lesson is revised by the class teacher. Some of these masters have heard the lessons so often that they can give the instruction themselves. In that case it is a necessary condition that they should come each week to the centre, where the apparatus is kept, to attend the demonstrator's lesson, 8148-52. The lessons in the school are revised by the schoolmaster without the assistance of apparatus, 8153. It is not found practicable, though desirable, to let children do the experimental work. A compromise which can be adopted is to bring them out one at a time to repeat the experiment, 8154, 8170-2. The domestic economy course for girls is unsatisfactory in every way, 8156, 8173. It involves no scientific training but is simply a collection of facts, the connection of which with scientific principles is not brought out. States the various heads of instruction in the domestic economy course, 8215-28. Would propose a course combining the principles of both domestic economy and mechanics to be taken by boys and girls equally. In the present course the boys get the principles of science without any practical application, while the girls get the application of principles without a mastery of the principles themselves. Gives an illustration. The new "Domestic Science" course in the Code does not exactly meet these difficulties, 8174-81. A scheme of science instruction with practical work for each child, would be an improvement. Does not consider Course H quite suitable; it should include the principles of health, &c., 8185-9. The cost of apparatus for the mechanics in 5th Standard is about £1, which does service for all the schools, 8004-5. In the Science and Art Classes in Liverpool, the system adopted in teaching science subjects is also that of a central laboratory and peripatetic instructors. Practical chemistry, however, is taught in special laboratories. Considers the defects in the Science and Art work are the absence of a real use examination for the children and the over-crowded syllabus, which must be got through in a limited time, 8196-63. As regards science classes for pupil teachers, owing to the exacting requirements of the Education Department, a good training in science is almost impossible, 8194-5. The introduction of Science and

SCIENCE INSTRUCTION—continued.

Art classes has created a desire in the teachers to improve their own status in science, 8169. In training colleges a general course of scientific instruction should be substituted for the taking out of a number of Science and Art certificates, 8189-3. Science teachers require special instruction in the method of teaching science, 8200-1.

Nixes.

The subject matter of the science instruction should be so connected that one lesson would lead on to another. Illustrates this by examples, 8251-4. Finds that in the Organized Science Schools the most popular subject with the boys is practical chemistry. In these schools the girls have the same course of practical physics as the boys, 8255-8. Given a certain showing how far a boy's choice of a career is affected by the work he does, 8267-9. Hand and eye training and elementary sciences were introduced under the Liverpool School Board at the same time, and no subject was taken off the curriculum to make room for these. Less time was given to the "three R's." Writing has suffered somewhat in consequence. The elementary science course has improved the teachers' method of teaching, 8300-11. The children regard it as a relief from their ordinary work. Would not attribute the high average attendance to the attractive nature of these new subjects exclusively, 8312-4. The children are required, in the advanced scientific work, to write a description of the experiment and apparatus. Their power of expression is cultivated by this means, 8323-7. Attributes the improvement of the boys in the lower Standards more to the elementary science than to the hand and eye work. Would prefer to introduce the former if given a choice, 8328-30—provided it were taught practically. Both, however, have a distinct educational value, 8331-9. Elementary science could be introduced into rural schools, but the Liverpool syllabus would not be suitable without a re-arrangement of the courses, possibly taking in one course the matter for Standards 1 and 2, and in another, that for 3 and 4 in Mr. Hewitt's scheme, 8351-70. A peripatetic teacher should be sent round to teach the subject to the classes in the teacher's presence, or the teachers might be brought to a centre where the expert might teach a class in front of the teachers. Under the first system the ordinary teacher should, in six months, be competent to teach the subject matter, 8371-4. Elementary science could in a short time be introduced into rural schools, 8381. Although the children do not perform the experiments as a rule, individual children are occasionally brought out to do an experiment during the lesson, 8380-3. In introducing elementary science, it would be necessary to have supervision of the teachers so that they may give the instruction the right direction, 8387-8. The simpler the apparatus the better, 8389-90. It might be possible in country schools to introduce elementary science in the shape of collecting insects, plants, &c., if the teacher took an interest in the work, 8400-4. Attributes the increase in efficiency in recent years in the schools amongst other causes to the introduction of manual instruction in the higher Standards and elementary science in the lower Standards, 8442-6. Points out the distinction between "object lessons" and elementary science as set out in the regulations of the Education Department, 8575-9. Regards the course of elementary science taken under the Board as a more satisfactory course of object lessons than those usually prescribed, nevertheless it is not recognized by the Department, which requires a separate course of object lessons not related to science, 8583-6, 8432-41, 8449-57.

GLANVILLE

The course of instruction laid down by the London School Board for its schools in June, 1871, included systematized object lessons, embracing in the six

ARTHUR E. SCIENCE INSTRUCTION—continued.

school years a course of elementary instruction in physical science, and serving as an introduction to the science examinations conducted by the Science and Art Department. The first mention of object lessons, in the Code of Education occurred in 1880. Previous to that science could be taken in the higher Standards as a "specific subject." A little box of apparatus was supplied by the School Board to its schools for use in the lower Standards, to illustrate elementary science as taught in the object lessons. Its cost was five shillings. Later on, when object lessons were taught, and the teachers supplied school-museums, the Board gave a museum cabinet. The formation of such museums should be encouraged, 9883-95. The Special Committee of the London School Board on Technical Instruction in 1888 recommended amongst other things, "that greater attention be paid to the teaching of elementary science." "That the peripatetic plan of teaching mechanics be tried in some districts of London, and that for this purpose the Board be asked to sanction the expenditure of a sum not exceeding £20 per annum for each school in which the experiment is tried." The mechanics referred to is really elementary physics. The recommendations were adopted with the striking out of the clause relating to the expenditure. Explains how that peripatetic system was carried out until quite recently, when it was modified on the lines advocated by Professor Armstrong, under Mr Hugh Gordon's, and subsequently Mr Heller's, supervision, 9893-9102. For the girls also "domestic science" has been inserted in the Code of Education as an alternative with "domestic economy." The syllabus was drawn by Mr Heller, and its object is to make the course experimental and scientific. Was recently at a meeting when the London School Board assembled 100 members, to whom Professor Armstrong and Mr Heller explained this syllabus, 9903-14. Regrets that in the pupil-teachers' centres the science course is according to the syllabus of the Science and Art Department; this is because the pupil-teachers want their certificates to count afterwards when they go to the Training Colleges, and because the School Board gains the grants of the Science and Art Department. In the pupil-teachers' centres under the Board there are laboratories, and chemical and physical experiments are performed by the students. They do sufficiently good work to enable them to give intelligent instruction in the object lessons. Science is not required by the Code from pupil-teachers. In the Training Colleges it is taught theoretically, 9935-7.—so that subsequently the teachers must be specially trained in order to have science properly taught. Considers the present course of science instruction in the Training Colleges, 10006-13. Considers manual work in wood has a certain educational value, better as much as elementary science. Elementary science should be taken early in school life. In large manufacturing towns, perhaps, manual work is more important; in agricultural districts a general knowledge of simple agricultural processes and natural phenomena is most necessary. Moreover, manual work is a little costly, while elementary science is not nearly so costly, in the poorer

SCIENCE INSTRUCTION—continued.

districts that may be a matter of importance, 9941-2. The form of science advocated, in comparing it with manual instruction, is such as is taught by Mr Heller, where the children have the opportunity of doing the work each for himself. Explains the modifications made by Mr Heller in Professor Armstrong's syllabus, 9889-10003. Object lessons, which are obligatory since 31st August, 1896, ought to be made use of as an introduction to science, 9943-4. Prefers "Course II" to the other syllabuses in the Code. Would prefer teaching children principles of science to making them specialists in any particular branch. The mental training is of primary import, the information, of secondary. They should be taught to observe, to interpret what they have observed, and to describe it, 9947-53. Elementary science should be awarded the first place in this respect. Approves of the recommendation of the School Board Committee, March, 1890.—"That in order to allow time for experimental teaching and manual work, the time now 'given to spelling, penmanship, and grammar generally' be reduced," this has been since carried out, 9954-9. The ordinary literary instruction has not suffered as a consequence, 9956-71. Science teaching under the Science and Art Department's syllabus consists chiefly of lectures given by the teacher illustrated by experiments made by himself. That method can be improved by the experiments being done to a certain extent by the students. Never saw a class so interested in scientific work as one under Mr Gordon. Such a course cultivates the faculty of observation and stimulates the thinking power. Would desire to see it extended to all elementary schools, 9971-81. Object lessons were originated by Pestalozzi. Does not agree with the "Instructions to Inspectors," which says, "Object lessons should be distinguished from instruction in natural science." They should, on the contrary, be the first stage in the systematic science instruction, 10014-18. Would have both manual training and science instruction included in the curriculum where circumstances permitted, 10022-5. Would not recommend the use of text-books at all in the lower Standards, 10025-7. The danger is that both teacher and child are inclined to depend on the text-book and omit experiments, 10054-60. The teacher's interest and the interest of the public has increased in science teaching since the School Board brought it into prominence. Advocates school museums when the children make the collections, also accurate measurements in teaching domestic science, &c., 10028-51. Gives some suggestions as to what system should be adopted, and what standard of efficiency should be required from the teachers, 10069-78.

HAWKSTONE.

Considers the practical lesson should precede the theoretical in science instruction, 10133-4. The scheme of object lessons adopted under the Barrow-in-Furness School Board is Marshall's, which has no reference to elementary science. Would approve of connecting them with science, which is not taught under the Barrow School Board, 10178-85.

III.

EVIDENCE TAKEN BETWEEN APRIL 29 AND JULY 31, 1897

[DIGEST OF VOL. III.]

AGRICULTURE.

ALLANBROOK.

Travelling instructors almost impossible, agricultural teaching should be given by the teachers themselves, who should, however, be taught practical agriculture first in such a school as Glasnevin. At present agriculture is taught as a matter of rote. Opposed to agriculture being taught in primary schools. On the other hand, a certain amount of botany, chemistry, geology, the nature of soil and stones, some zoology, and the internal structure of animals, should be taught in primary schools, 10489. Agriculture should be taught only in higher grade schools specially established for the purpose, 10490. School plots useful in connection with primary schools, as the people know no little about gardening, 10491. Inspectors very apt to make mistakes in agriculture, has heard examiners ask boys questions which boys answered rightly, yet they got a "fail," 10491. Limerick Enamement Trustees anxious to have practical examples and experiments and specimens and such things. A boy more likely to remember a thing he has seen and handled than things merely stuffed into his head. The Newcastle West teacher thinks it very advantageous to establish in every school the nucleus of a small museum. He has done so himself, and finds the boys take the keenest interest in it, to the extent of bringing him specimens, 10491. Agricultural classes should be held every other day, or at least twice a week, 10493. Field demonstrations should be held at least once a week, 10499. Garden plots and exercise plots may be of several kinds—a market or kitchen garden, a farm or crop garden, or experimental plots. The latter of most service to the farmers, but market or kitchen gardens of most service to the whole community, 10500. Combined with this, in a grass country, might be experimental plots on grass land, as the farmers have little idea of the application of artificial manures, 10501. Lectures to farmers in England on artificial manures, feeding stuffs, stock, dairy and grass land management, veterinary hygiene, poultry-keeping, bee-keeping, fruit culture, a marked success. Much could be done in this way in Ireland, 10506. Would not teach chemistry so low down as fourth class—would begin with fifth. Fourth class might learn names of plants, to recognise grasses, weeds, and to understand the structure of animals, 10526. In every case boys who are to become farmers should have a foundation of elementary science, 10534. By field demonstration, means taking the boys out in the country, letting them pick up a flower and telling them what it is, catching an insect and telling them what that is, looking at an animal and explaining the good points of the beast—this would not require the teacher to have a farm of his own, 10569, 10560. Very elementary chemistry might be taught in fourth class, 10566-72. In the demonstration plots attached to the Yorkshire College the manures and supervision are found by the West Riding Council. The farmer supplies the land and labour. Witness goes over and measures the ground, lays out the plots, and either sees or arranges for the manures to be applied, and then at the time of reaping, the results are compared and tabulated, 10568. Something might be done in the direction of pot experiments in schools, 10569. Defects of farming in Limerick district were that farmers had no idea of usefully using artificial manures, nor of co-operation in dairying, great defect, want of uniformity. Improvement, however, taking place, 10568-9. In dairying would not say England was a model, 10569.

ARNOLD GRAYES.

If such subjects as chemistry and botany were taught in the country schools it would be possible to teach as much agriculture through them indirectly as would be necessary in an elementary school, 10591.

JAMES GORDON.

Describes Cheshire Agricultural and Horticultural School, established by the County Council, 42 students, majority farmers' sons, some labourers' sons, Cheshire students under 16 pay £30 a year, over 16 £36; outside students £40 and £48. County Council each year gives a number of scholarships for primary and secondary schools, which keeps the students during the three years' course at the College; contemplate introducing agricultural and horticultural teaching in elementary schools; these subjects at present taught in secondary schools, a lecturer or teacher going to eight schools each week, and teaching also the afternoons and giving field demonstrations, 11410-33. The latter help to prevent students learning by rote without knowing the meaning, 11434. In the secondary schools they do not use textbooks—work from notes, same should be done in primary schools, and if teacher not competent to make the notes, better not teach the subject, 11435-41, 11527-34. States cost of college to County Council, 11439-44. Land surveying might easily and usefully be taught, 11479-80. Almost impossible to teach draughts in primary schools, though an essential subject, 11481-3. Easy to teach boys how to extenuate weeds, 11484-91. In Cheshire, well provided with secondary schools, to which farmers' sons go after leaving primary, 11550-4.

FESTON.

Under Science and Art Department agriculture taught in nine or ten Irish schools, which require to have apparatus to illustrate the subject experimentally, 11576-8, but they have seldom used it. For the future, however, will have to do so to get the grant, 11582-84. Examination is a written one, conducted from London, but the Inspector has power, when visiting, to ask teacher and pupils to perform experiments. The majority of teachers are unable to perform experiments in elementary chemistry, 11591-3.

HOLLAND.

Agriculture would be a fiasco in connection with National schools, 12182. Theory taught in his school, but not of much use, 12190-3.

CARROLL.

Proposes a scheme for preparing teachers, consisting of ten or twelve preparatory colleges, which pupils would enter after they had passed the Sixth Standard, and where they would remain three or four years to be educated for the teaching profession, of a great central normal college, say at Glasnevin, such as that contemplated by the Commissioners of National Education in 1837, where teachers would be taught science and practical farming, and which would have a staff of professors of the highest attainments, and where they would remain one or two years, passing thence to the respective Training Colleges to be trained in the methods of teaching, 12320-206.

APPENDIX B. AGRICULTURE—continued.

COFFEY.

Would teach agriculture practically and theoretically, 13039-46, by means of small gardens, and instruction in the sciences that underlie the subject, 13188-99.

NEALON.

Believes agriculture the only feasible subject of a practical character that can be taught practically in a country school. Would have a small farm of two English acres, to carry on a four course rotation. Portion of the land would be devoted to gardening, where vegetables, fruit, and some flowers would be cultivated. The pupils would take part in all the operations, according to their age, sowing seeds, weeding, &c. Bee-keeping and poultry-keeping should also be taught, and handbooks on these subjects and on diseases of animals, used. The time for practical agriculture would be available within school hours by modifying the programme for grammar, geography, and arithmetic; grammar should not be taught to any pupil under Fifth Class. A school garden of half an acre would be almost worthless; an acre, however, might do, if more could not be got, but it should be as easy to get the land for school farms as for the labourers' cottages, 13208-456.

HEADEN.

Teaching practical agriculture is rather teaching the trade of agriculture, which is not desirable, and should not be done in ordinary schools; besides, the parents object to their children being employed in weeding, planting, &c. In schools where there were plots or gardens he did not find the subject any better taught; and, on the other hand, there is a school in his district where the pupils obtained 100 per cent. in every subject at last examination including agriculture, without any garden or farm, which the teacher of the school held to be unnecessary. His plan

AGRICULTURE—continued.

was to get the boys to observe the crops, &c., around them, while he gave them the information as to rotation, manures, &c. The boys also made collections of grasses, seeds, and roots, which were fully explained to them. He found the boys had exceptional knowledge of these matters. His idea is that the teachers ought to teach principles, and the rationale of the processes of agriculture, somewhat on the system in the school described, 13457-90, 13553-40.

W. A. BAKER.

Theoretical education has been unnecessarily decried; what has been done in the schools is useful, and, so far as practical teaching is concerned, nothing useful can be done outside school gardening. The theory, however, should be illustrated by the practice of the neighbourhood, whether good or bad. Girls should not be taught the subject, except in dairying and special branches. Teachers generally don't care to teach agriculture. There should, if possible, be a garden attached to every school; teachers take more interest in gardening than in agriculture, 13676-95, 13719, 13714-31.

STEELE.

Suggests coloured diagrams, 13802. The theoretical teaching at present is good, but it should be combined with instruction in a garden, and elementary science should be taught. The teachers could take a summer course, or go to local centres on Saturdays; or peripatetic teachers could teach in the schools, 13881-43.

SALOMON.

Not taught in Swedish primary schools, but in some gardening is optional, 14953.

See School Plots, Science, Chemistry, Botany, Entomology, and Poultry.

ALTERNATIVE INDUSTRIAL SCHEME.

MRS. POWER LALOR.

Has kept the scheme on partially, and considers it a dead failure. Believes the cause to be a too strong literary programme for the teachers, 11007-11, and a too sudden change from an altogether literary programme to an altogether industrial one. If the plan could take in cooking and laundry, and other practical subjects, it would succeed. The teachers are inclined to look down on the industrial training as inferior to the literary, 11013-16. Would make the scheme optional, so that a certain number of girls might take other practical or literary subjects if they preferred, 11018-9, 11064-5. Arithmetic should be preferred in the scheme, but in a very practical form, 11059-62. The scheme, if it embraced cookery, laundry, and poultry and bee-keeping, would be very useful, 11108-18. The depot for stationery in Dublin is of little use, 11115-31. Not prepared for ten hours' needlework in the week, but that time should be devoted to practical instruction, 11124.

TRAILL.

Refused to adopt it, or other scheme exclusively, because some of the girls were literary and some wanted to be dressmakers, and not prepared to force them all to either alternative; both carried on in his school, 11718-30.

STEELE.

Two hours a day too much for this work, 13844-5, unless made really scientific. The subject should be optional, 13906-8. Reason of the failure of the schools was partly due to the objections of the teachers, but more to those of the parents, 13924-5.

CLEMENS.

An hour would be sufficient for needlework in a school, 13988-93.

See Manual Instruction and Needlework.

ARITHMETIC.

MRS. POWER LALOR.

In female National Schools the arithmetic is too hard for girls, and has a bad effect on their health; a great deal of time given to this subject which might be better spent on objects to the square root, and interest and discount, 10038-44. Quotes letter from man in West of Ireland saying arithmetic in many cases worse than useless, 11118.

RECHER.

Boys learn the subject easier than girls, 11198.

TRAILL.

Would not reduce the time spent on arithmetic, which is essentially important, 11701-3; duodecimal multiplication, 11729-34.

GEORGE PERRY.

For commercial purposes the arithmetic taught in the schools is useless, 12701-3.

ARITHMETIC—continued.

NEALON.

It is too advanced, in both boys' and girls' schools, in the higher classes—suggests more simple and condensed arithmetic, 13238-9.

HAYES.

Less arithmetic would be sufficient for the higher classes of girls, 13290-1.

ARITHMETIC—continued.

W. A. BROWN.

At present too difficult in the primary schools; recommendation should be made part of the arithmetic course, 13700-2.

HYKES.

Teaching of, might be restricted with advantage, 13776-7.

APPENDIX E.

111

BEE-KEEPING.

MRS. POWER LALOR.

This subject should be taught in female schools, 10601, 10982. There is a great deal of money to be made out of bee-keeping, 10983. A few of the ordinary text-books in rural schools would be a great help, and

the industrial programme should be modified so that this subject might be optional, 11606-7.

NEALON.

An important subject, and should be taught, hand-books on the subject being provided, 13252-4.

BOOK-KEEPING.

HYKES.

The hour a week given to this subject in the town schools might be more profitably spent, 13790-4.

NEALON.

Was the complement, in the town schools, of agriculture in the rural schools, under the programme, 13264-5.

BOTANY.

ALLSTON.

Bishop of Lonsdale got boys to bring in flowers day by day, and in a short time they knew all the wild flowers in the neighbourhood, 10494.

GOLDEN.

When showing pupils plants growing in school plot, gives three elementary lessons in botany, 12042.

JAMES GORDON.

Some practical elementary information should be given. Describes system in secondary schools in Cheshire, 11465-72.

HAYES.

There should be elementary lessons and experiments, 13459.

See Agriculture and School Plots.

CHEMISTRY.

GORDON.

Could not be taught in elementary schools without laboratory, but the elements could—e.g., the composi-

tion of plants—with great advantage, 11465-8; it should begin with boys in the 4th and 5th Standards, 11542-9. See Agriculture and Science.

CHRISTIAN BROTHERS' SCHOOLS.

MERRITT.

Inspects drawing in 84 Christian Brothers' Schools—very satisfactory, 10903-5. Reason so few Christian Brothers' Schools give manual instruction is because

it is too expensive. There are, however, three—Gloucester school, which is rich, Limerick, which is endowed for the purpose, and Cork is about to start the subject, 10911-3.

CLAY MODELLING.

ARNOLD GRAVES.

Recognized by the Science and Art Department as one of the forms of Manual Instruction, 10705.

REICHEL.

Unless used for some artistic purpose, it is of very little use, 11179, 11227-9.

BURNAN.

Takes a great deal of time to do well, and no use in doing it badly. A room would have to be set apart for it, or the school would never be clean, would not insist on the subject, 11347-74.

See Technical Instruction.

COOKERY.

ARNOLD GRAVES.

Cookery has been made an optional subject for female students under training, and counts towards classification if taken up, 10828. Personally does not

think it could be made compulsory, owing to expense and difficulty of getting teachers. It is not compulsory in England, 10832-3.

APPENDIX B. COOKERY—continued.

MRS. POWER LALOR.

Greater freedom in the subject required in rural schools, 10980-1. A two years' or three or four years' course necessary, 10963, 10996. Suggests peripatetic teachers: each would teach about 400 girls in the year in the 4th and 5th Classes: this would require about 190 teachers, at an expense of a little over £100 a year each, 10963-74. Subject should be made compulsory, 10990, but this difficult, owing to trouble of getting materials, appliances, &c.: could not suggest how this difficulty to be got over, 11002-5. Opposed to the ordinary teachers teaching cookery. If certificated teachers for cookery made compulsory, the convents would send one of their own novices or postulates to a regular diploma class, 11069-74. There should be a fund to help in the purchase of materials, as there will always be difficulty in rural places in disposing of the cooked food. Describes own experience, and how experiment worked, 11075-85. Girls are delighted to attend cookery classes, 11142. Housewifery, if introduced into Irish schools, would be most useful, 11142-4. National school teachers could not teach cookery unless they attended 900 practices and demonstration lectures, of an hour each, which course would cover two years. The teaching of ordinary teachers is of little value, 11145-57.

BRESNAH.

When abroad, always impressed with the comparative ignorance of our population how to make the most of their food: compare Sweden and France in this respect to England, 11178-7.

DRAWING.

ARNOLD GRAVER.

Views of Technical Education Association: Inculcates habits of accurate observation—as of practical utility to man, and especially to the teacher—essential to the artisan, 10676. Proposes that there should only be enough Euclid for the purpose of mental gymnastics, and that the rest of the propositions which have practical value should be taught through geometrical drawing and practical geometry: by this means a practical use of Euclid is taught to the boy who will ultimately become a mechanic, 1474. Drawing has greater educational advantages than geography, and has replaced it as a compulsory subject in the English School Code, 10727. Accepts figures of Most Rev. Dr. Walsh and Mr. Redington, showing that statement in his memorandum putting number of boys taught drawing in Irish schools at 5 per cent. considerably under-estimates the percentage; but states his own experience at Kevin-street, that the great bulk of the boys cannot draw when they come to that school. In 1886, only 47,147 boys and girls were examined in drawing in Ireland, while in England 9,133,675 were examined, 10737-32. Drawing enables teachers to use the blackboard more, but in Ireland it is very little used in the illustration of lessons, 10781-4. The results fee at present paid for drawing in Ireland amount to £8,000, which is paid out of the Education Grant: if the subject were made compulsory it would be £30,000 or £40,000, which should be paid, as in England, by the Science and Art Department, 10803-11. Both freehand and mechanical drawing should be taught in the schools, and the teachers should be trained in both, 10816-8.

MEREDITH.

Inspects 98 schools in connection with Science and Art Department—34 Christian Brothers' schools, 5 convent, and 5 various. They are all over the country, and in the two out of the 93, Manual Instruction is

COOKERY—continued.

W. A. BROWN.

Subject making great progress, and should be made obligatory, and the inspection done by experts; and the teaching should be, if possible, the whole year round, and made almost as important as needlework. It should be done by the ordinary teachers, 13693-5, 13697-9, 13711-3, 13730-41, 13745-52.

MISS MCCARTHY.

There are three specialists in the subject in the three female Training Colleges in Dublin, and four itinerant teachers, and teachers certified by the Board annually, many of whom, however, do not teach, 14099-105. In 1893 only 60 schools took the subject—nearly all convents—out of 8,000. This caused by expense of apparatus, difficulty of getting certified teachers, stringent rules of the Board, the small results fee, and the indefiniteness of the programme, 14109-118. Subject should be made compulsory for girls' schools, and continued all the year round, small grants being given by the Board for apparatus and material, if possible, 14118-27. Teachers could be taught at centres on Saturdays, or during vacation, 14131; permit the ordinary teachers to itinerant teachers. Partly lessons a year would be a fair amount, each lesson being two hours. The training at the Training Colleges quite sufficient for artisan cookery. The cost of plant would be about £3 for each school, 14131-305.

given, 10842-7. Describes nature of instruction and the seven Standards, also method of inspection, and makes suggestions as to the qualifications of teachers, 10848-52. None of his schools National schools—none eligible for this grant, 10853-63. Teacher does not at present require to have a certificate under Science and Art Department. If National Board followed same system it might facilitate making drawing compulsory in National schools, 10911-20.

MRS. POWER LALOR.

There should be greater freedom with reference to this subject in female schools, 10961.

BRESNAH.

Teaching of, in National schools has been almost useless, as not taught intelligently, probably owing to teachers' want of knowledge, and of how to teach the subject, 11303-5. Advocates a complete system of teaching: put it in practice himself in County Cork in connection with classes in the two centres, going once a month to ten schools to teach and inspect, 11307-14. Between forty and fifty centres would be required, and the teacher for the centre should visit each school in his district once a week and give a lesson, 11315-20. In addition, would bring the teachers either to Dublin or Cork, or some such place, ten, say, a month's course in summer, on this teaching might be done in the local county centres, 11320-7. In primary schools freehand, geometrical, and model drawing should be taught, 11328-9. Would not give a certificate to a teacher unless he knew the three subjects, which all bring together, 11330-5. Six hours a week of the two years' course, and eight hours a week of the one year's course would be necessary, 11336-42. Teachers trained on the old lines, going to a local centre on Saturdays, would require since hours each Saturday for forty weeks, 1134-3. Sometimes the peripatetic teachers should do all the teaching in the schools,

DRAWING.—continued.

11345-8 The teachers should not merely be taught to draw, but how to teach drawing, 11349-55. Would allow drawing to be taught by uncertificated teachers if they proved their ability to teach, to a competent drawing inspector, 11356-60. Describes proper system of geometrical drawing, 11361-6. Would not allow children to make their own designs, and would not teach drawing and designing together, 11376-9. The sketch should be used almost as frequently, if not more so, than the pencil, 11381-3. The Art Schools of Dublin, Belfast, and Cork, might be more largely utilized than at present in instructing National teachers. Help has been given in this way to teachers in schools where book-making is carried on, 11384-408.

TRAIL.

In National schools, defective, though an essential preliminary to wood-work, but not the master's fault, when he has seventy children to look after. The subject should be taught for constructive purposes, and also on a blackboard with chalk, to lead the hand and eye to work together, 11609-16. Subject should be compulsory; in own school it is so, for both boys and girls, 11617-20. Advocates peripatetic teachers, 11620-6.

HOLLAND.

In his school freehand drawing is taught from the third class upwards, and in the sixth class, shading; it gives a training to hand and eye, but would not say that as taught in school, it was much use in after life 11517-60. Teachers should get a certificate on answering 40 per cent, 12161-73. It would be desirable to have the drawing in connection with the manual work, 12265-7. Would give a certificate for freehand alone, or for any one subject, 12360-8.

CONRY.

The subject is taught in the schools according to the Board's programme. For the future certificates should be necessary. Would object to itinerant teachers visiting the schools, but not to teachers going to centres to be trained. The subject should be compulsory, but any teacher who has shown his competence, should be allowed to teach, 12951-53, 12986-12990.

NEALON.

Very important subject. The making of certificate compulsory, resulted in the teaching of it being generally abandoned, as no fee could be paid, 12940-5.

DRAWING.—continued.

HEADEN.

Should be made compulsory, as far as possible, and to freehand should be added geometrical drawing. The subject should also be continuous from the infant to the highest classes in the school; at present there is a gap, which should be filled by having drawing on cheapened paper in the second class 13461-3, 13511-14. Perspective is necessary to object drawing, 13566-70. Would allow present teacher who could show capacity for subject, to teach it without certificate, but for the future would insist on teacher having certificate which would indicate that he could draw himself, and teach drawing, 13609-38.

W. A. BROWN.

Practical geometry should be optional with freehand, 13703-6.

STEERS.

The teacher who can teach writing properly could teach drawing after a fortnight's lessons; if it should be taught in continuation of handicrafts, whether teachers have certificates or not, 13800-1.

CLEGGES.

Subject is not at present taught: all the teachers do is to give the children copies, and leave them to themselves. The teachers are not trained to teach drawing, even in the Training Colleges, where they are only taught to draw. The teacher should be able to make a sketch on the blackboard and give a demonstration before a class, 13949-53. Teachers could learn to teach the subject from Vere Foster's new drawing sheets, which should be put on the Board's list, 13959-64, 13999-14018, and there is Blackie's "How to teach Drawing," a very useful pamphlet, 14070-3, 14083-98. In the lower classes the children should be taught to draw straight lines and form triangles and squares, 14064-63. Can be used in teaching geography, the child being made to draw simple maps, 13964.

FOX.

The evidence given by a previous witness did not describe the system of teaching drawing at St. Patrick's Training College, Drumcondra. It was inaccurate to say that he merely distributed models to the teachers, and allowed them to copy them. On the contrary he is continually at the blackboard, and most of the work done by the students is following what he does there, 14206-10. His system somewhat similar to the system of Vere Foster's diagram sheets, which would be very useful to teachers throughout the country, 14211-12.

See Manual Instruction, Handicraft, and Technical Instruction.

ENTOMOLOGY.

JAMES GORDON.

Students take great interest in this class of work, 11449, and he would teach natural history of all insects that are injurious to animals or plants on a farm, 11492-9.

GOLMES.

Encourage boys to collect destructive insects, and shows them how they grow, 12061-7.

See Agriculture and School Fairs.

GEOGRAPHY.

AROLD GRAVES.

New optional in England. Drawing has greater educational advantages, and now compulsory in England, 16727.

MRS. POWER LALOR.

Girls ought to know own geography, Great Britain and the Colonies, where many have friends, but

mathematical and physical geography might be left out, 16945-6. Subject should be made optional, 16997-11091. If it was necessary to diminish time spent on bookwork would leave out geography altogether, 11696-700.

APPENDIX E
III.

GEOGRAPHY—continued.

HOLLAND.

A great deal taught in the schools is worthless; some schools use the map of the country instead of the map of Ireland, and local geography of chief importance, but proper maps almost impossible to get, 12194-206. Would make subject optional: describes parts he would leave out, 12218-21. Maps used in England, 12328-5.

COFFEY.

Would make the subject compulsory, for it has a high educational value, but would modify and simplify the system of teaching, 13023-37, 13059-64, 13121-4, 13167-74.

NEALON.

Should be taught by means of readers, as in England, but would not give up the maps, 13228-9.

ARNOLD GRAVES.

In National Schools would curtail the time spent on formal grammar, and make every lesson indirectly a lesson in grammar, 10726-7.

MR. POWER LALON.

In female schools, they go a great deal too far in requiring girls to know the principal rivers, portages, affluents, &c., 10944. Subject should be made optional, 10999. Quotes from men in West of Ireland, that grammar in many cases worse than useless, 11118. If it was necessary to diminish time spent on literary subjects, would take grammar out of programme altogether, 11604-701. Boys could write out descriptions of what they were doing in handicraft, and so bring in writing and composition, 11704.

HOLLAND.

Great deal taught in the schools worthless, but would not eliminate altogether, 12194-201. Would make it optional, describes parts he would leave out, 12213-7, 12320-2.

COFFEY.

Would make the subject compulsory, but would simplify the system of teaching, 13023-37, 13059-64, 13121-4, 13167-74.

GEOGRAPHY—continued.

HYSEA.

Teaching of, might be restricted with advantage, 13776-7.

STEWART.

Would retain subject to second fifth class. It would be an improvement if the maps begun with, were local ones, 13849-60.

CLEMENS.

Can be best taught by putting children to draw maps, the present textbook ought to be burnt, 13994.

See Manual Instruction.

GRAMMAR.

NEALON.

Should not be taught to any child under fifth class and then mainly in exercises and composition, 13295-7.

HEADEN.

From point of view of speaking and writing, present teaching is not of much use, but the subject, even in the third class, is useful, as children learn parts of speech, which is an introduction to the science of the subject, 13692.

HYSEA.

Programme might be restricted with advantage, 13776.

STEWART.

Would not reduce the time given to the subject, 13797-9, but in second fifth class, would combine it with composition, 13923. Should be taught by teaching children to make sentences first. The present system does not immediately make the children speak and write correctly, but mediately it does, 13938-48.

HANDICRAFT.

ARNOLD GRAVES.

Prejudice among National School Teachers against teaching Handicraft. Taught in only 15 schools in Ireland in 1893. Objections taken to programme drawn up a few years ago because it is not educational, 10696-701. In 1895 only 256 boys receiving instruction in Ireland, as against 30,096 in England, 10723.

HOLLAND.

Swiss New Borough School has an endowment of £130 per annum, portion of which is devoted to handicraft, 12005-103. The present system of handicraft in our National Schools is not working well, owing to the fact that teachers or managers have to defray the initial expense of building, and owing to the difficulty of getting the money for tools, benches, &c., 12104-5, 12114. At Swards the subject is taught from 3 to 4, 12106-11. In order to have handicraft taught, the National Board should defray initial expenses, and examination of pupils should not be confined to two years, as at present, 12117-28. If the work were done by an artisan it would have no educational value, and would be injurious to the school, 12129-36. The Commissioners should give a two-thirds

grant for the erection of a separate room, and in fourth class the fee should be 4s, and afterwards 5s, 12143. The subject very popular with the pupils, and 34 out of 38 pupils took their prizes in tools in preference to books, 12154-6. His boys in the class range from the ages of 12 to 15, 12258. Explains why present system of National Board is not very educational, and might be improved, 12262-4. Describes system of teaching surveying in the schoolroom, 12277-80. The programme at the Swards School might be made more practical, but that would necessitate a corresponding change with reference to the exhibitions, 12280-315. In favour of a five years' course, 12329-44.

HEADEN.

Has seen handicraft taught under Board system, but his experience is that it is not educational. There has been nothing in the junior classes to lead up to it. Has no objection to the principle of manual training. Teachers were not so sympathetic with the subject. An hour on one or two days of the week could be spared for manual instruction on a proper system. Boys should be taught to use their left

HANDICRAFT—continued.

hasn't, 13466-73, 13515-44. Under the Board's present system there is a good deal of what has been described as tinkering, 13657-69.

CLEMENTS

Has examined in some schools in Belfast in planing, making little articles, and using the turn-screw and hand-saw, and various tools. result most satisfactory, considering the Board's programme. The pupils' ages ranged from ten to seventeen. The programme should be changed so as to employ the children from third class up, in construction only—using the hammer—the seniors cutting out, and

HANDICRAFT—continued.

using edge tools. The introduction of this subject would quicken the children's intelligence—they are asleep at present, 13965-82.

Should be taught in all schools to all pupils, giving two hours a week to the subject, outside ordinary school hours; the teachers would learn at local centres in six weeks, if there were any prospect of special and adequate payment—say 2d. per hour for each child taught, or 2s. 6d. at least per two hours for small schools. The subject should be made obligatory in all schools, 14010-30, 14038-32. Would include everything that can be done with the hands, or is necessary about a house, 14073-81.

See Manual Instruction (TRAILL).

INTERMEDIATE SCHOOLS.**REICHEL**

Describes how established in Wales—scheme drawn up by a joint education committee in each county, 11269-79.

PRESTON.

Some schools manage to get a grant from Science and Art Department, in addition to their own result

fee, but the experiment is a risky one, 11768-84. The result of the action of the Intermediate Board with reference to their grant for encouraging additional instruction, has been to kill off science instruction, 11896-905.

See Manual Instruction and Agriculture.

KINDERGARTEN.**ARNOLD GRAVER.**

The recommendation of the Technical Education Association is that in all schools where there is a Kindergarten department, the system ought to be continued throughout the entire school course, children are thus taught gradually to proceed from the concrete to the abstract. In Irish primary schools the concrete generally gives way all at once to the abstract, and the children are taught a lot about names and little about things. This difficulty has been recognised in England and largely provided for. Transition classes should be established in both boys' and girls' schools, 10711-3.

BRENNAN

Calls forth the power of thinking at an early age, and should like to see it established in all the schools in the country, 11301-2. Gives instance of remarkable intelligence of children thus taught in Southern Convent school, 11379-80.

HOLLAND.

Could be devolved into handicraft by having for children at the age of ten, a programme embracing cardboard cutting and the use of the knife, and perhaps

of the ruler and square and compass; those in the fourth class, then at the next stage other tools, but in the fifth class there should be nothing but woodwork, 12238-40.

COFFEY.

His experience is that children off the streets are better and more progressive pupils than those from Kindergarten schools, 12965-80, 12974-80, 13178-80, 13390-7.

HEARIN.

In the Kindergarten schools in his district last year 2,454 infants passed in reading and spelling, out of 2,455, that is, 99 per cent.; whereas, in the other schools in which subject was not taught, 1,078 infants passed out of 1,136, or 94.8 per cent.—the difference being 4 per cent. in favour of Kindergarten. Considers the system admirable from the educational point of view, progress in literary branches being strengthened by it, 13480-3. Describes system of object teaching in his schools, 13484-7.

CLEMENTS.

In the hands of a competent teacher, is of the greatest possible advantage, 13988-7.

See Manual Instruction.

LAUNDRY WORK.**MRS POWER LALOR.**

There should be greater freedom with reference to this subject, 10961. Three schools have adopted it in Dublin diocese, and three others are applying, and one in Galway, 11020-2. Great difficulty in getting girls to take up laundry work, as they consider it

demeriting. The Barrow system of one week's practice in the year would not suit Irish children, 11105-8.

REICHEL.

Increasing difficulty to find girls in Ireland who can do laundry work, 11176.

LIMERICK ENDOWMENT FOR TECHNICAL EDUCATION.**ALLSOPBOOK.**

Deals with eight National schools, and teaches agriculture by means of classes, field demonstration, garden plots, and lectures to schoolmasters and adults, 10488. Took weekly, ten classes at the eight schools

Newcastle West, a very large one and went there two or three times a week, 10497. Found it impossible to hold field demonstrations because of inability to get schools together, they were so scattered, 10499. Lectures to schoolmasters a failure, as young men

APPENDIX B.
III. LIMERICK ENDOWMENT—continued.

could not spare any time, preparing as they were for higher examinations, 10502, 10503. Lectures to farmers at Newcastle West were well attended, especially those on veterinary surgery, 10506. Describes origin, income, &c., of endowment, 10509-14. Taught practical science bearing on agriculture from text book, could not do anything else, as would have interfered with results less, and teachers would have been up in arms, 10511-2. Scheme too young to have had any effect yet on agriculture of the district, 10502. Visited National schools only,

LIMERICK ENDOWMENT—continued.

but lectures not connected with National schools, 10505. Scheme was originally Munster Model Farm, established under the National Board, 10601. Witness's personal experience in Ireland extended only to three months, 10524. Teachers of neighbouring schools attended his instruction, 10549. His successor delivers lectures in Newcastle West, 10630. Would have examinations following lectures to farmers, to see how far they profited, 10571.

See Agriculture, Technical Education, and School Plots.

MANUAL INSTRUCTION.

ARNOLD GRAYES.

Impossible that it can be taught at training colleges under present two years' system. Might imitate English County Councils, who have formed special classes for elementary school teachers, where they have been instructed gratis, and their travelling expenses paid, in the meantime peripatetic teachers could be employed, 10699-92. Describes direct advantages of, quoting from memorandum of Technical Education Association. Indirect advantages—introduction to laboratory work, vehicle for instruction in drawing, elementary science, geometry, mensuration, and mechanics, and if statement about American schools true, encourages parents to allow children to remain longer at school. The present exclusively literary education gives actual damage for manual work, as witness knows from experience, and manual instruction would counteract this tendency, 10699. If manual instruction is to be taught by the ordinary National school teachers, Swedish Sløyd has many advantages, a teacher can be trained to teach it in three months, 10694. Drawing is one of the highest forms of manual instruction. So far as the preparation for technical school education is concerned, it is the opinion of many connected with our technical schools that instruction in drawing and elementary science is of more importance than manual instruction. Would not recommend manual instruction before the first of fifth standard. There would probably be 20,000 boys over this class in the urban schools, and if the government gave 5s. a head, the cost would only be £5,000 a year, exclusive of the cost of tools and apparatus, which would be about £20 per school, 10700. Teachers would be required for about sixteen pupils, 10708. Describes relation between manual instruction and Sløyd, 10736-61. If manual instruction is to be introduced into Irish schools and apparatus, &c., provided, it will have to be done by the State to a much larger extent than in England, owing to the different circumstances of the two countries, 10691-4. Manual instruction is provided for in England by the Science and Art Department, 10610.

MERRIMONT.

Examines two schools in manual work—St. Vincent's Orphanage, at Glasnevin; and a school at Lismore, county Waterford. Has been able to report satisfactorily on these. They do not go in for Sløyd. Describes system at Glasnevin school, 10844-70, also at Lismore, 10907-8. The grant is two pence a lesson for each scholar for "good," plus 20 per cent. for "excellent," 10909. Teacher does not require at present to have certificate for drawing, 10911-14.

BRIDGE.

Manual training has several advantages, it counteracts the feeling against manual occupations, and the highest manual dexterity cannot be reached unless the hands are trained between the ages of four and fourteen. Its educational advantages are that it cultivates general intelligence and self-reliance,

increases the interest in the bookwork, and frees the boy to think for himself. A system of instruction in cardboard, wood, or metal may also be made to serve the purposes of laboratory practice in geometry and mensuration. Gives account of experience in school in Manchester where some boys were put in workshop at manual work, the time being taken from the ordinary school curriculum, with the result, at the end of fifteen months, that it was found those boys could not only hold their own against the rest of the school, but that their work was of a more intelligent character. Since then the system has been applied to all boys above 4th standard, from ten to fourteen, and it has been found that Euclid is better taught than ever, 11188-93. In the Welsh secondary schools, which are just coming into existence, the subject is as yet introduced only in a few cases, owing to want of time, but each county has its own scheme, and in most of them manual instruction is one of the subjects stated, and in some it is compulsory, 11148-71. Work in cardboard is for the very young children, and merely preparatory; in the upper classes work in wood and metal best. Wood preferable to metal. Clay-modelling little use except used for some artistic purpose. Manual training must observe two principles: the work must be really artisan's work, if it is to kill the prejudice against such work, and it must be highly skilled, or it will not be a mental training, 11178-80. Should be taught by trained teachers, and not by artisans, 11181. These had been tried in Sweden, but the experiment failed, 11182. Mentions experience of Welsh teacher who introduced subject, and who, instead of having to reduce the other work in consequence, was able to add two new subjects, 11184. There was no increase in the number of school hours, 11193-7. Difficult to get parents to see good of system, and only way to convince them is by practical proof, by giving bonuses to the subject, prizes, &c., and by not having it taught by artisans, 11210-11. The question of models should be largely left to the teacher himself, 11216. Herr Larsson at Boston copied the wood apparatus in the school laboratory, 11219. Cost of introducing subject is 6s. per head yearly, building £260, plant £100, 11256-65. Subject should not be entered on at later age than ten, 11284-9.

TRALE.

Describes experiment made in school of which he is manager. Built workshop, equipped tools, knitting machines, &c. Experiment lasted five years, but it was a failure, owing to being too ambitious, to instruction having largely to be carried out after school hours, to the fact that the National Board would not recognize the work except for 3rd and 6th classes, and to the inadequacy of the teaching staff allowed by the Rules, 11569-901, 11709-17. Woodwork should begin with the 4th class in Ireland, and the gap between it and Kindergarten should be filled up. Boys should get two hours every second day at woodwork in school hours, 11885-605. If workshops properly managed, boys regard it as punishment to be kept away from them, and if

MANUAL INSTRUCTION—continued.

manual instruction introduced in the Irish schools in school hours it would help the attendance, 11803-7. Manual instruction great gain to the literary work, it is time saved, for it brightens the faculties of clever and stupid boys alike, 11617-31. Prefers an armistice for teaching, to a trained teacher; but better still, a combination of the two, 11633-40. In the Sloyd system the trained teacher would be preferable, 11641-2. Describes Ireland's system, 11651-5. Local manager should always supply the equipment, 11660-3, or the locality, but people won't guarantee annual sums, 11680-92. If Government would give funds, would start his manual instruction again to-morrow, 11721-4. Table of cost of workshop and tools, 11741. Boys should first learn to draw what they make, 11744-6.

GEORGE FERRY.

Employs 250 hands, and is in direct relation with all the food, textile, and manufacturing industries of the country, making packing cases. A hundred boys employed, and finds them very deficient in punctuality and cleanliness, the present National school system being largely responsible for the failure, and want of accommodation for washing, &c., in the schools, for the latter, 11607-19. Finds that boys cannot use their left hands, a most necessary art in his business in handling nails and soaking money much more important than knowing the names of rivers and mountains in Central Africa, 11620-3, 11673-7. Neither do they know how to count money, either the boys from the National or the Christian Brothers' schools, and can not tell the difference between a 2s., 2s. 6d., or 4s. piece. This knowledge might be taught with ordinary counters, 11627-31. Opposed to the teaching of trades at schools, but boys should be taught weights and measures in a practical way, 11632-40. Accuracy in folding paper, making parcels, &c., should be taught, as Irish boys most defective in these things when they go to business, 11641-9, 11652-5. The teaching at Arcane is very faulty, and the boys from that institution are neither practical nor smart; it would be better to give the boys there some general manual training rather than trying to teach them a trade which has to be untaught after wards, 11694-5. If boys were taught generally the measurement of length, area, and volume, they would more quickly pick up the measurements in the particular business to which they go, 11700-8.

TERENCE CLARKE.

Under the circumstances of Irish schools, manual instruction would do more harm than good, as even at present the literary instruction is insufficient, only six per cent. of the children reaching sixth class, seven out of ten never getting beyond the third, and the bulk of them leaving school at the age of twelve, just after the manual instruction would begin. An intelligent boy, trained at his books up to twelve, is better able to face life than a boy who had devoted portion of his school time to manual instruction. Instead of manual instruction, he would extend drawing, elementary physics, and agriculture and the sciences connected with it, these not interfering with the literary training, but being merely an extension of it. The danger of manual training is that it might turn the pupil out incapable of reading, writing,

MANUAL INSTRUCTION—continued.

and making up simple accounts. In giving these opinions he spoke for the Committee of the Teachers' Organisation, which in this matter, he believed, represented the whole body, 12713-234. Would not substitute manual instruction for football, for example, because in the National schools there is too little play, and the boys are not taught sufficiently how to play, 12865-8.

CORRY.

Gave generally the same evidence as Mr. Clarke. Manual instruction would crush out something more important, and it would not be wise to increase the school hours or to open the schools on Saturdays. The time given to literary knowledge at present is not sufficient, and he believes the parents of Ireland will object to the new subject; there is evidence of this in the alternative scheme for girls, which was in operation in only 1520 schools last year. Technical instruction might be given in continuation schools, 12933-45. Instruction in the primary schools, however, should be more practical. Makes ten suggestions towards this end, 12962-66. Children have a training of the hand and eye all their lives—could not do as much for them in this respect as they do themselves in spinning tops or playing marbles, 13065-9. In his opinion on manual training he believes he represents 4,800 teachers out of the 7,000 in the organisation, 13070-8. Would not object to it being introduced as an optional subject for both teacher and manager, 13154-4.

NEALON.

Measurement is important for manual trades and agriculturists; it should be taught independently of geometry, 13230-2.

HEADEN.

In country schools, practical geometry, associated with land surveying and measurement, would be a fine form of manual training, 13464, 13638. Saturday would be a good day for manual instruction, 13500-3.

W. A. BROWN.

In favour of the subject in town schools; the only question is the question of arranging for the time, 13722-9.

HYMAN.

Approves of introduction of manual instruction, if it does not interfere with the literary, which is being very well done at present. The Kindergarten system should be developed by continuing exercises through the more advanced classes up to fifth or sixth. There should be a separate building, and in many instances one building would do several schools, 13760-94.

STREDE.

In country districts, should be made a voluntary subject and taught outside school hours, 13803-5; except where there were not sufficient teachers, when it might be taught inside school hours, 13846-8. It will not be taken up in rural schools unless there is a large fee attached, 13872-7.

See Needlework, Drawing, Science, Kindergarten, and Results Fees.

MECHANICS.

PRISTON.

Elementary practical mechanics could be taught at a very early stage in the National schools; as a subject of practical science it is best suited to elementary schools, 11944-5.

See Technical Education, Handicraft, and Manual Instruction.

ARNOLD GRAVES.

Not taught practically in Irish National schools, 10676. Taught experimentally and practically in English schools, 10678-80.

NEEDLEWORK.

ARNOLD GRATES.

Dressmaking has been made compulsory for female students in training; workmensmens should be provided in these schools where they are not at present, 10828-31.

MISS POWER LALOR.

Needlework in National schools, at present uninteresting, teachers cannot do-out properly. Great difficulty in rural schools in providing sufficient materials, 10948. Would suggest that there should be peripatetic teachers in needlework, and would let the local teacher follow the course in convent schools, where needlework is well taught, might be used as centres for the neighbouring teachers, 10960-3, 11064-7. Would have drawing, mending, and cutting-out made compulsory, 10961, 10990-2. Would like to see Rule of the Board changed so that manager could, if necessary, employ a needlework expert, 10955-90, but without decreasing the salary of the principal teacher, 10994. Where the teacher is a good one the children get sufficient practice, but where the teacher is not good, the people have no confidence and will not bring the material, 11086-8. In most of the schools mending and drawing are not taught, 11030-3. Gives striking illustration of absurd system of inspection, by which incompetent may pass and competent fail, 11643-4.

TRAILL.

Would teach young boys knitting and sewing from the very first, 11571. Superiority of method of making a dress to scale as seen in a Dublin convent by the Commissioners, 11734-5.

HOLLAND.

Young boys should learn needlework, but only at home from their mothers and sisters, 12384-5.

FRANES.

From fourth class up, each girl at the examinations shows him a garment. Needlework is carefully taught in his district, and is a fine form of manual instruction, 13490-2. Could not see any objection to teaching boys a little sewing, but thought male teachers would be rather unwilling to take up the subject, 13548-51.

W. A. BROWN.

The ordinary inspectors not the proper persons to examine in this subject, as they cannot instruct either teacher or pupil how to improve, 13753-4.

STEEDE.

Carefully taught in the junior classes, and had foundation laid for work afterwards, 13807-10.

See Alternative Industrial Scheme, and Manual Instruction.

POULTRY KEEPING.

MISS POWER LALOR.

Female pupils should have the option of learning this subject, 10962. A few text-books in rural schools would be a great help, and the industrial programme should be modified so that this subject might be optional, 11056-7.

GOLDEN.

Keeps three breeds of poultry in connection with

his school, and his wife gives pupils instruction; the result is the reputation of the district in reference to poultry has improved, 12001-7.

NEALON.

Should be taught, and handbooks on the subject provided, 13223-4.

RESULTS FEES AND INSPECTION.

ALLANBROOK.

Under system of inspection in agriculture in Irish schools children are not taught to learn or to think; simply taught to remember, 10481. Objects to results fees on the examinations, which are out of the causes of the failure of the Irish system, 10551-4. Some of the Inspectors need training. They do not inspect intelligently, examining from lists in books. Agriculture should have an inspector to itself. Could not say whether agricultural inspection was worse carried out than inspection in arithmetic or geography, 10578-85. If the subjects were examined intelligently, teachers would try to teach them intelligently, 10526-31. English boys think, Irish boys do not, 10504-7. Instead of results examinations, children should be examined in such a way that a good examination would ensure the passing of the whole school, 10461-3.

MISS POWER LALOR.

Results fees unfair to pupils and teacher alike, offer a premium to teachers to adopt a low standard in their schools, and to give most of their attention to children that will make up the attendances. They are also tempted to look after the bright child more than the dull, 10978. A great deal of useless knowledge is acquired like parrots, owing to the system, 10979. There should be a general examination, and the money

should be paid according to the general merit of the school, 11027-36. Could not say would recommend discontinuance of present results system, but would certainly recommend its modification, as its tendency is to make machines of the children, 11138-41. It would be a great mistake to abolish results fees, 11645-50.

PRESTON.

Under the new Science and Art arrangement if a pupil makes over ten attendances, and has got twenty-eight lessons, he can help the school to earn a grant, and the system tends to introduce a system of attending to the teaching of the children in the school generally, 11970-5.

HOLLAND.

Payment on individual passes should be done away with; if the answering on a subject was satisfactory, would pay for the teaching of that subject for the number in the class, 12267-12. Describes system of competitive examinations between Old and New Borough Schools at Ewerds, 12241-7. It would be an improvement to modify the results system so as to give Inspector more time to look into methods, 12250-5. Schools should be inspected in all their departments by the official Inspector of the National

RESULTS FEES AND INSPECTION.—continued.

Board, and might have experts attached to the Department to keep them up to date in special subjects, 12323-8, 12375-9.

TERENCE CLARKE.

The Inspector examines too much, and does not inspect half enough; the teacher should be paid for by the class, not by the individual pupil, 12352-8.

COPPEY.

The results system is not truly educational, and the teachers have again and again objected to it, 13669-100.

RESULTS FEES AND INSPECTION.—continued.

HEADS.

The payment of results fees ought to be on the average attendances, but there ought to be two or three different rates of grant, 13552.

W. A. BROWN.

The present programme and system of inspection do not encourage observation, 13707-9.

STEWART.

Notes entitling in schools in the observation book, but teacher cannot be penalised for it. He questions the pupils individually in the reading lesson in the senior classes, but not in the junior; finds that explanation of the lessons is habitually neglected, 13573-901.

SCIENCE.

ALLANSHIRE.

Elementary science should be taught every other day, one hour being given to the lesson, 10693.

ARNOLD GRAY.

Technical Education Association asks that "some knowledge of the things that surround us" should be taught in primary schools, as in France and Germany, and as will be the case in England within the next year or two. The subjects should be taught experimentally, not as mechanics in taught in Irish National schools, 10476, 10750-5. Science instruction in England extends over three years, in Ireland only over two, yet the course in Ireland is more extensive than in England, 10690-3. No appliances in National schools, and no provision for them, and hence text books leave experiments out of consideration. In England apparatus supplied by School Board, but in Ireland the £5 grant being absolutely inadequate, teacher would have to supply it out of his own pocket, 10683. If there were school committees in Ireland as in England things might be different, 10684-6. As long as National school teachers are not afforded opportunity of being trained to teach science, and as long as peripatetic science teachers are not employed, elementary science cannot be taught in National schools, 10683, 10684-5. Difficulty might be met by adopting plan of English County Councils, which hold special classes where teachers are instructed free, and their travelling expenses paid. Another way would be a scheme of peripatetic teachers who would work in the same way as that by which cookery or dairy work is taught under the National Board. Or, again, the course at

technician colleges might be extended to three years, as in France. Finally, science and agriculture might be made interchangeable in the training colleges, 10689-91. The teaching of science should be made *quasi* compulsory, and where the teacher is qualified, *absolutely* compulsory, 18119-20. In no case does the grant of the Science and Art Department for apparatus exceed the local contribution, 10686-9.

MURPHY.

Schools under the Science and Art Department were 53 in 1867, and are now 93, 10678. In 1893, 17,546 boys were presented for examination in elementary art, in 1894 15,000 odd, 10687-8. There is a considerable falling off in consequence of the Intermediate Act, 10687-91. Better fees are got from the Intermediate Board, 10692. None of the four Protestant schools he inspects are in Belfast, 10698-901.

REICHEL.

In some of the Welsh Intermediate schools they have tried the Gordon system of scientific testing with great success, in the lower classes. It has the same advantages as manual training, except that it does not counteract social prejudices, and it has an additional advantage that it teaches how to make experiments, 11232-40.

HEADS.

Elementary physics should be taught, and the children allowed to make experiments, 13448-9. Would be in favour of a simple programme for junior classes, 13601-8.

See MANUAL INSTRUCTION.

SCIENCE AND ART DEPARTMENT.

PACSON.

Visits the Science and Art classes in Primary and Intermediate schools during instruction, generally without notice, and sees how the work is being done, giving the teacher help in every way he can, 11763-7. About 100 Intermediate schools this year, and some of them, though they run the risk of endangering their intermediate results, manage to get both these and a grant from the Science and Art Department, 11767-44. Fifty National schools worked under the Department last year, and about thirty this year. The work in these is done outside school hours by a teacher who must have certain qualifications, working with a local committee, and the subjects are elementary mathematics, agriculture, navigation, physiography, electricity and magnetism, sound, light and heat, botany, geology, hygiene, and

sometimes physiology, 11765-76. The teacher can select any subject he chooses, 11777. He gets his certificate from the Department, but must get permission from the National Board to hold the classes, 11778-83. Department must be satisfied as to sufficiency of apparatus, and that teacher sees it, and, in practical subjects, also the pupils, 11784-8. Examinations are conducted annually by examiners appointed by the Department, in writing, except in practical subjects. The system of payment was similar to the Irish results system, but has now been changed to one by which the grant is given according to attendance, the answering of the class at examinations, and the Inspector's report, and if the latter report that the instruction is efficient, a grant may be made though no pupil pass, 11790-813, 11845-58, 11871. Number of schools in Ireland under Department decreasing owing to the

APPENDIX E

SCIENCE AND ART DEPARTMENT—continued.

raising of the standard in England, and no help being given to the weak schools, as in England, by the local authorities, 11813-25. Department will pay for half the apparatus in Ireland, 11826-31. The secondary schools have fallen off, because under Intermediate system they can make more out of literary subjects, and any science taught is on paper, which is not worth a grant, 11832-9.

SCIENCE AND ART DEPARTMENT—continued.

The Department's work in Ireland is not so good as when second class passes were paid for, 11844. The action of the Intermediate Board has killed science in Ireland, 11846-905.

See "Science," "Drawing," "Handicraft, Manual Instruction, and Technical Education."

SCHOOL HOURS AND SYSTEM

ARNOLD GRAVES.

Irish school day only four hours, the shortest in the world, and encourages habits of laziness. Children over eight should attend for five hours, and three on Saturdays, and there should be morning and afternoon school, as in England, except in the rural districts; and the eight hours thus gained would be devoted to—two hours per week to instruction in drawing, two hours to manual instruction, and four hours to elementary science. The German system might also be followed by which instead of devoting time to the time-table for the higher classes to reading, writing, and spelling, every lesson, no matter on what subject, is made indirectly a lesson in reading, writing, and spelling. The time expended on formal grammar might be curtailed by making every lesson indirectly a grammar lesson, 10722-3, 10733-5.

MISS POWELL LALOR.

Would have separate teacher in female schools for every fifty pupils, 10979-7.

TRABELL.

Great mistake to have abolished school fees, 11697-9, own experience is that it diminished attendance, 11675-6. Too many schools in the country, 11686-8. Cannot understand how a teacher handles seventy children, 11715. Sixty, at the farthest, should be the outside number, and the situation of the Government should be drawn to the difference between

the practice in Ireland and England in the matter, 11747-54.

HOLLAND.

Hours at Swards; impossible to have a two hours' recess at midday, 12371-3.

COFFEY.

Would not extend the school hours, which generally run over the four in the country, 13099-8.

NEALON.

Some attempt should be made to improve the attendance, nearly 70 per cent. of the pupils now fail to make the 100 attendances required, which is no hardship out of 128 available days in the year, 13244-9. The teacher must at present be in the school for 5½ hours daily, 13277-83, 13311-16. Would recommend the Compulsory Classes of the Education Act be applied to this country, 13382. Most of the children leave school after they pass the 4th class—that is, at about the age of ten, 13396-507.

HEATHEN.

An increase in the present staff of the National schools would be a step in the right direction, and would make the way easier for introducing the proposed extra subjects, the assistant to be a qualified man in all or some of them, 13639-45.

See "School Plots," "Results Fee and Inspection."

SCHOOL MUSEUMS.

ALLSHERROCK.

The boys should make collections for themselves, and thus form the school collections. They could be replaced year by year by the new boys, 10073-5. Nass and another school, 10642-44.

HUGH GORDON.

Classify teachers in secondary schools make boys collect specimens in summer, to form school museum,

and same should be done in elementary schools, 11433, 11473-9, the collection being renewed every year, 11934-6.

GORDON.

Has a school collection, grasses, &c., which the boys collect, and annually renew, 12061-3.

See Agriculture.

SCHOOL PLOTS.

ALLSHERROCK.

In favour of school plots, and of letting the children themselves work them. The site should be from a road to an acre, 10555-58. None in Limerick district, but it was proposed to establish them, 10666. Knowledge of arithmetical measure might be afforded by these plots, 10667-70.

JAMES GORDON.

There should be a school plot of about one-eighth acre, where could grow all the cultivated grasses and clovers, and fudge plants not so well known, and the students should take charge of them and keep them clean, 11412-3, 11500. Experimental plots at elementary schools would not be of much advantage 11433-5. The time the boys spend cultivating the plot, should be outside school hours, and a practical demonstration might occasionally be given as a lesson of the day, 11535-40.

GORDON.

Cultivates 1 rood 20 perches attached to Enniskerry National school. Has at present eighteen boys and seven girls who are taken out during the half hour for recreation and instructed in the different crops, the children like it, 11974-91. Instances case of a pupil who now makes money by selling potatoes, cabbages, onions, parsnips, carrots, celery, parsley, peas, cabbage plants, and turnips, 11993-4, also cultivates roses and keeps greenhouse and both have proved useful to the pupils in after life, 13008-19. The garden work has not an injurious effect on the general studies, 13020-3. Goodacts, also, experimental plots for farm crops, the sowing being done by the pupils, who take great interest in the result; the farmers around also interested, 13025-36. Every school where agriculture is taught should have a garden attached, 13037-41. The children work in the plot

SCHOOL PLOTS—continued.

during the recreation half hour, from 12 to 12.30, but do not come on Saturdays, 12044-51. The half hour for demonstration is too short, and might be extended to an hour by allowing the infants to go home half an hour earlier, 12058-64.

HOLLAND.

In order to encourage school plots, there should be an amendment of the National Teachers' Residence Act, empowering managers to include in the loan the cost of the plot, 12180-2.

SLOYD SYSTEM (Swedish).

ARNOLD GRAYES.

A teacher can be trained to teach Swedish Sloyd in three months, according to Herr Salomon, 10694. It is cheap, and can be taught by female teachers, and to female children, 10695-6. National school teachers would not have any prejudice against it as against teaching handicraft, as it purports to be a scientific education of the hand and eye, 10696-8. Objections to the system are that the models and exercises are based on Swedish life; also the sand-papering, and the "round work" is introduced at too early a stage, 10701-8. An "Irish Sloyd" system should be devised, adapted to the Irish home. This would get rid of the objection of the teachers to the old inferior and unscientific handicraft, 10703-5, 10763-8. In England it has been found difficult to induce the teachers to take up the subject, and unless our course of training at the colleges is extended for another year, it will be impossible to train the teachers who are untrained. There is a great advantage in employing woman teachers, but they would have to be taken comparatively young and specially trained. If the National school teachers cannot make up their minds to take up the subject, it will have to be omitted from the school course, or artisans employed, 10703. Sloyd is manual instruction and manual instruction may be Sloyd. Sloyd looks to the educational effect, not to the article made, 10704-61. If Sloyd is taught by the National school teacher it can be taught all over the country, but if by artisans, it can only be taught in the towns; teachers, according to Herr Salomon, can be taught in three months. If artisans were introduced into the schools they would be looked on as intruders, who were taking away a certain amount of the fees, and the children would think they were learning a trade instead of being educated, 10770-7, 10779-80.

RECHER.

Knows two places in Wales in which system was established with great success. They start with a knife. It is manual training in general which is important rather than the particular system. Herr Larsson head of a great normal school in Boston, United States, told him that you must have a native set of models or else the whole thing will break down, and he has worked out a system of American models for his own school, 11171-3.

TEACHING, SYSTEM OF.

ALLSIBROOK.

System of teaching by rote bad: is owing to system of inspection. If the inspection were different the teaching would be different, 10826-31.

MRS FOWNE LALOR.

Consider education in Female National schools too literary. The arithmetic is too hard, and has an

SCHOOL PLOTS—continued.

HEADEN.

Knew school gardens in Rollins and Monaghan which did some useful work, 12050.

W. A. BAKER.

There should be a school garden attached to all schools, if possible, and the time devoted to it should be in school hours, the subject being made optional, like grammar. The size should be about $\frac{1}{4}$ acre, 12685-92, 12696, 12717-21, 12755-6.

See "Agriculture."

CLIBBERT.

System would be adapted for National schools; and would introduce it to all girls' schools, 14032, 14067.

SALOMON.

Gives history and origin of the system in Sweden. Introduced in 1877 by the Government as a voluntary system, which it still is, both on the part of teacher and pupil. Regarding the former, only those who believe in Sloyd should teach it, and better no Sloyd at all than Sloyd taught by a teacher unwillingly; regarding the latter, nearly all the children in Sweden elect to take part in it, beginning at the age of ten. In 1878 the number of Sloyd schools was 163, in 1887 it was 791, and in 1894 it was 1,537. Other subjects have never been displaced by the system; they cannot, for if they are the grant is withdrawn, but it has always been the other way. The work is not joinery, carpentry, or cabinet-making, and the object is not to make tradesmen, but to give a general education common for all men. In Sweden, "without the knife no Sloyd"; there is no tool which will develop the hand and the sense of form so well, it is the artisan's tool, like the paint-brush, not the artisan's, like the plane, the stamper tools are better for education. About fifteen or twenty girls' schools have adopted the system. In all training colleges for men it has been introduced, and it is proposed to do the same for women's colleges. Sloyd leads to better progress in other subjects. The annual increase in Sweden at present is about 125 schools. When a new Sloyd school starts, the Government gives a grant, and also the County Council. In Iceland the mistake should not be made which was made in Norway and France, of introducing the system in a wholesale way. Twenty schools would be enough for the first year, then 100, then 500, letting it grow, and in ten years perhaps you would have 15 in 4,000. In the training of the teachers he would advise employing some man who has been a tradesman, and who has taken a training course himself. Each boy ought to be taught according to his own ability, and not according to the ability of other boys, but he would not pay parents fees on individual passes, but if the subject is taught so many hours and if the inspector certifies that it is satisfactory, 14,213-53.

See "Manual Instruction," Handicraft, and Technical Education.

effect on the girls' health, 10906-44. Goes too far also in grammar and geography, 10941-4. Addition and Reason out of place in rural female schools, 10,890. Literature for young people at the present day should be 19th century literature, and not that of a bygone age, 11037-49. Country girls wish to become shop assistants, telegraph clerks, &c., because their system of education does not give them an interest in their home life. The programme could be so modified that

APPENDIX B.
III.

TRAINING, SYSTEM OF—continued.

there would be less objection to manual work, 11098-11103. Believes the National Board should secure the opinions and suggestions of the heads of the great girls' schools periodically, as the Intermediate Commissioners do, and there might also be associations of managers who would keep up communication with the Board, 11129-37.

ALLERBROOK.

Limerick Endowment for Technical Education deals with eight National schools and teaches agriculture by means of classes, field demonstrations, and garden plots, and lectures to schoolmasters and adults, 10488. Notts County Council Technical Education Committee's system of agricultural education in (1) a college course at University College, Nottingham; (2) extension lectures to farmers, &c.; (3) school lectures for boys in primary and grammar schools; (4) analysis of feeding stuffs and manures, for the information of farmers; (5) The Midland Dairy Institute, where people go to receive dairy instruction. There is also, in conjunction with the Derbyshire County Council, a travelling dairy school, 10098. Manual instruction system should be established before technical education can do any good—you must begin at the beginning, 10090-7.

ARNOLD GRAVES.

There is not a word in the fundamental rules of the National Board about practical instruction, and suggests that "joint literary and practical" instruction in those rules. We do not want less literary, but more practical instruction in our elementary schools, 10078. Kevin-street technical school in existence eleven years. Boys attending it require a good elementary education—reading, writing, arithmetic, measurement, weights, drawing (freehand, geometrical and solid geometrical), some Euclid, practical geometry, and physiology. Irregular attendance at National schools (probably owing to want of compulsory education) necessitated Kevin-street refusing admittance to large number of intending pupils, who had not sufficient elementary education to enable them to follow the instruction. Tried to change this by offering, in 1893, 25 exhibitions, tenable at Kevin-street, to scholars who for two years had been attending elementary schools in Dublin, and who had passed the fifth stage. Offered these exhibitions for two years, but there were no candidates, and scheme had to be abandoned. It appeared none of the pupils were sufficiently advanced in the subjects selected, few knowing

TRAINING, SYSTEM OF—continued.

TRAIR.

When school fees were abolished teachers were to do more, but did not, 11705-6. They should not, however, be asked to do more for some money now, 11707-8.

See Results Fees, and School Hours and System.

TECHNICAL EDUCATION.

drawing, or elementary science, or manual instruction, 10676, 10786-91. Strongly in favour of higher grade schools which would lead up to the day technical school and give clever youths a chance to become, perhaps, science teachers if they received a subsequent training at such a place as the Royal College of Science. These schools are in almost every country on the Continent, and are becoming very general in England. The curriculum might be the same as that prescribed by the Science and Art Department for all organised science schools, 10713. The night classes in the elementary subjects at Kevin-street are very well attended, but the evening school code in Ireland is not attractive, and the attendance at night schools is very small, only 1,800 compared with 63,000 in Scotland, and 188,590 in England. The grant in Scotland to the teacher is £1 per head, but in Ireland it is only £1 for each month the school is open with 25 boys *per* pupil not attending day schools. Ireland should follow the lines laid down in England and Scotland, and offer greater inducements to the teacher, and make the programme a more attractive one, 10713-21, 10841. Describes system of Whitworth scholarships, 10778. In Kevin-street school most of the pupils have to be taught matters that they should have learned at the elementary school before coming there. They leave the primary school at twelve and enter at Kevin-street at fifteen or sixteen, and in the intervening period forget whatever they have learned; compulsory education up to fourteen would make a great change in this respect, in the towns at any rate, as that is the age at which boys become apprentices, 10791-5. If, however, compulsion is to be really effective, there will have to be a reform in the character of the instruction given, 10796-7. Before establishing a higher system of technical education in Ireland, would be in favour of portion of the money granted for the purpose, being devoted for a few years to establishing practical instruction in the National schools, but in the interval a good deal of the money should be available for "building technical schools, 10812-5. Would not place the higher grade technical schools under the Intermediate Board, as in science subject, a paper examination is worthless, 10812-7.

See "Manual Instruction" and "Handicraft."

TRAINING COLLEGES.

ARNOLD GRAVES.

Students enter without any knowledge of science, and have too much, otherwise, to learn in the two years' course to be able to acquire such a knowledge of science or mechanics as would qualify them to teach those subjects. At present none of the students at the Church of Ireland Training College take up science or mechanics, 10689-9. Course might be extended to three years, as in France, and include science, mechanics, and manual instruction, or science and agriculture might be made interchangeable, 10691. Was not previously aware that for the last few years, while the number of vacancies to be filled in the ranks of the teachers was 1,515 the combined efforts of the Training Colleges could put forth only 718 teachers. That being the case, however, his suggestion of an increase in the Training Colleges course from two to

three years could not be adopted till the number of colleges was increased, if it were adopted the output of trained teachers would only be about two-thirds of even what it is at present, 10739-48. Church of Ireland Training College has a computer to give manual instruction, but not being educational, the instruction is worthless, 10777.

REIMER.

In the Day Colleges very difficult to introduce manual training, owing to the present curriculum, with such a large number of subjects, but in the Welsh Day Colleges an attempt to do so will shortly be made. It ought to be practicable, 11207-8. Three hours a week would probably be devoted to the subject, 11213. The introduction of manual instruction in Training Colleges would probably render it easier to get through the rest of the programme, 11222-5.

TRAINING COLLEGES—continued.

PRESTON.

The science subjects taught in the Training Colleges should be illustrated by experiments. The Science and Art Department will help in getting the apparatus. Pupils should have a course in practical physics. Practical science in the colleges should be made compulsory, and large results fees in the schools would tend to the introduction of the subject, 14357-59.

HOLLAND.

The training in handicraft, drawing, Sloyd, gardening, &c., should be done during July and August in

TRAINING COLLEGES—continued.

the Training Colleges. Peripatetic teachers would not suit, 12137-42, 13147-55. All teachers who wish to teach handicraft in their schools, should be taught handicraft when training. It could be done in the two years' course, 12356-2.

CAMBRIE.

Manual instruction should be taught in all the training colleges, 14031-2.

See "Manual Instruction," "Science," "Agriculture," "Handicraft," "Technical Education," and "Drawing."

APPENDIX E.

III.

IV.

EVIDENCE TAKEN BETWEEN SEPTEMBER 29 AND DECEMBER 17, 1897.

[DIGEST OF VOL. IV.]

APPENDIX E.

IV.

AGRICULTURE.

BROTHER THOMAS.

Teaching of, in the schools is a great failure, because it is taught simply by memorising the text-book. The teachers are not inclined for it, and for that reason school gardens would not be of general advantage, 14267-70, 14380-1, but they would be encouraged by grants, though this would not give the natural taste necessary for the creation of a taste for the subject in the pupils, 14271. Suggests the teaching of the principles of agriculture in the primary schools as the elementary principles of the natural and physical sciences, which the teacher would have a decided taste for, and the boys would take to and benefit from, 14272-3, 14277, 14340-2, 14357, 14363-4. In that case school gardens would not be of much use, but gardens large enough for the teaching of botany could be attached to every school, 14365-7. For a regular agricultural system, however, an agricultural school is necessary, 14273. Describes the provision existing for teaching agriculture in connection with the De la Salle College, and says that the students begin with a rough, but not systematic or intelligent knowledge of the subject, so that they have to begin at the beginning. They would, however, on getting appointments, be capable of teaching it, though they would not have sufficient interest in it to do so, and would simply make the boys memorise the text-book, 14282-7, 14304-9, 14318-9. Were the teachers left perfectly free the majority of them would not go to the farm connected with the College, 14310. Methods of creating in the teachers an interest in agriculture had often been spoken of, but what was most lacking was a taste for farming. If they had had that taste they would not have become teachers, 14270, 14311-3. Generally speaking agriculture is not taught in the French primary schools, but the principles of the natural and physical sciences are taught, 14363. If it were desirable to have a good course of agriculture it should be taught in special schools, with special teachers, which would be attended regularly for a year by those who had finished their course in the National schools, and who, having a taste for it, had got a preparation in physical and natural science, 14382-5, 14391-8.

SHEFFIELD.

Present system of teaching, is useful in country schools, 14428, 14492, 14516. School gardens of about half an acre each would be of advantage, and they

should be encouraged by giving borrowing powers to managers; and by grants, 14426-30, 14565-8. Describes management of school gardens, 14460-2, and says he has no doubt that schools with gardens would do as well as, if not better than those without them, because they are a recreation for the children, 14463, 14498. Instruction in agriculture does not interfere with literary work, 14497-8. Sixth class boys should be taught experiments in agricultural chemistry, 14543. School farms as opposed to school gardens are not to be encouraged, 14544.

ESSEX.

A small plot should be attached to each school, for production of flowers and vegetables, and it would be useful if competent itinerant teachers gave lectures, say, twice a month, 14573. Continuation agricultural schools, which boys who had left the National schools would attend daily, would be useful, if feasible, but he does not think anything beyond attendance by teachers and pupils at weekly or fortnightly lectures could be managed. In large centres, however, agricultural schools, with resident pupils, could be carried on, as on the Continent, 14576-9.

LANCERS.

The general break-down in the teaching of agriculture is not due to the teaching, but to the system of inspection. One year he might get 10 per cent. and the next 80 per cent. of passes, 14645-8. The questions are too scientific, 14657. His reports show satisfactory results in other subjects, though they are interfered with by having to give extra time to agriculture, 14659-60. To proceed to it by elementary science would improve the teaching of agriculture, 14667, 14675, 14687, but there is no room for it at present, 14673.

RICHARD H. BEANER.

The teaching of, in primary schools in Ireland is practically useless, and the pupils' attention should be turned instead to subjects such as elementary science or Sloyd, which would teach them accuracy, which is not understood in this country, and concentration of thought. The teachers cannot, in the natural course of events, the standard of agricultural education

APPENDIX B. AGRICULTURE—continued.

29.

being very low, be qualified to teach the subject, 14929-36, 14939, 14940-1, 14946-55, 14952-3, 14959-8, 14991-2. The pupils should begin to learn agriculture only in a continuation school after their ordinary education is completed. There should be two or four agricultural institutions, and the rural schools should be developed into minor dairy schools, 14937, 14963. School plots and gardens would only be of use as regards potato spraying, 14954-6. If the boys in primary schools were taken on excursions to see different farms and crops it would be a good thing, 14943. It would not do any harm to retain dairy instruction in the primary schools, but for dairymaids it is better not to have it there, but to master the subject after working properly-constituted dairy school, 14956. There is no instruction in agriculture in the primary schools of Sweden or Norway, but farming is much more perfect than in Ireland, 14927-9, 14972. In Sweden, where the children are taught at the conclusion of the ordinary school work, they have two agricultural institutions, 14 rural schools with a six months' course, 24 agricultural schools with a 2 years' course, 4 dairy schools and 16 dairy stations. The pupils, who have already acquired an accurate standard of work in the primary schools, are not taken till they are 17 or 18, while some are 25 years of age, 14932-3. The course in the 14 rural schools is a higher one, embracing science and the Swedish language, and is for men who display more than ordinary intelligence as workmen, and who have been five or six years on a farm, 14957-8. In the 24 agricultural schools, which are really estates to which the Government gives a certain subvention, the pupils are bound for two years, like ordinary labourers, a certain portion of time being given to theoretic work, and the balance to carrying out the work of the farm in a more intelligent way than it would be by ordinary labourers, 14965. In Swedish schools, owing to the system of teaching, secondary is better developed than in Irish schools, 14968-71. In Ireland, where the best butters in the world ought to be made, the dairymaids are less intelligent than the dairymaids in Denmark and Sweden, owing to the special technical instruction which the latter obtain. They have no knowledge of ripening cream, or of how to use and use it, 14937-8, 14973-92. The creamery system would be better than the lisp butter system, 14973-4.

JAMES BYRNE.

Does not think the education in primary schools satisfactory, 15009, though the boys gain an advantage from the study of the books, 15015-6. The greater number of the teachers know very little about the subject. Does not think they could become experts by attending a course in Glenties, because the course is too short, two years would be necessary, 15009-10, 15034-8. Sees no objection to garden plots and school farms, which would do good if the teacher had a liking for, and took a personal interest in, the work, but thinks a great many of the teachers would not, 15011-3, 15039-8. The teachers, with gardens, could create a taste for the growth of flowers and vegetables, 15016. The model farms which were formerly throughout the country, did not seem to be successful. It could not be expected that they would pay, because the work of pupils is never as valuable as that of paid hands, 15013. Museums of specimens should be supplied to primary schools, and it would be an advantage if the teacher showed the boys in the fields the plants they read of in the books, 15017. Approves of the teaching of agricultural chemistry, 15018-21.

BOKER.

Would not continue the present mode of teaching but would combine it with practical instruction in elementary science. The experiments would be of

AGRICULTURE—continued.

immense advantage, and the teachers would find delight in making them. Would not dispense with the text-book, but would simplify it and make it more attractive, and include in it two dozen simple experiments, 15094, 15097.

T. J. ALEXANDER.

The present book teaching by itself is worthless, but combined with an element of experiment would be exceedingly valuable, 15173.

SMITH.

The teachers are competent to teach it, and it is just as intelligently taught as grammar or geography. The new text-book will do a great deal of good. It would be better for the farmers to have a knowledge of agricultural chemistry, 15268-72, 15294-6. Teaching of, in primary schools must necessarily be a proper introduction to higher forms, 15343-6.

DEANEY.

It is better to teach it theoretically than not at all, but theoretical teaching should be supplemented by agricultural chemistry or, if possible, practical work in the garden. Would have practical flower gardening for the 4th Class and nothing else, the Irish garden next, with vegetables and fruit trees, and then the cultivation of farm crops on a farm of not less than 20 acres. Would have analyses of soils and manures for the 1st 6th, and experimental agricultural chemistry for the highest division, and have cut altogether the subjects of bee-keeping, live stock, dairy management, and poultry. Dairying and poultry-keeping should be compulsory in girls schools. The great mistake made at present is in keeping strictly to the text-book, which is too elaborate and should be reworked in a practical way. A beginning should be made with the teachers, a great many of whom have no information on the subject, except what they have gained from the text-book. They should be at liberty to visit the agricultural model farms to see the practical operations. Suggests the keeping in the schools of specimens of plants, flowers, seeds and cattle food, and the training of the pupils in collecting. The object of teaching the subject is the promotion of agriculture, but in this it does not succeed in the absence of demonstration. There are other subjects which develop the pupils' intelligence in a much greater degree, and it is unfair to teach children trades they have no intention of following. The subject, with the exception of flower gardening, which could be taught to very young children, should be taught to older pupils in special schools. The percentage of passes is the lowest, while the fee is the highest, but if a smaller amount were attempted it would be better done, 15407-11. 15421-23, 15503-16, 15574-7.

GAMBLE.

Taught it in the city for years to children who had no idea what they were learning. A model training would be experiments in seeds and manures in pots. The children might be made to make collections of plants, and the system of examination should be changed, 15708-16.

G. BATHMAN.

Present system of teaching is practically of no use to the country. Proposes readers in agricultural subjects bearing on elementary chemistry and botany. For the £12,000 a year now spent on the subject there might be forty or fifty experts through the country diffusing a useful knowledge of the subject. Advocates garden plots of an acre each, though half an acre might

AGRICULTURE—continued

be enough, and the doing of practical work. Itinerant teachers would be necessary at present, but would require special training for the teachers in the training colleges and in Glasgow Model Farm. Failing the expert teachers, instruction should be given in elementary chemistry, botany and agriculture. The boys should be instructed in the subject from eleven years of age. If the teachers got a thorough instruction in elementary science in the training colleges and taught it in their schools, the technical instruction in agriculture might, however, be better left for more advanced institutions, and in this case the teachers would not require practical training in Glasgow. Would you encourage the making of collections of plants, insects, and minerals, and pay results fees for these, 15957-64, 15917-8, 16074-89, 16193-3, 16123-4.

W. B. JOYCE.

The methods of teaching are bad, but the teachers are not responsible for this, 16180-3.

BURKITT.

The teachers are quite capable of teaching it where they have got training, but some complain that they have had no training though they are expected to teach it. The teaching in Mainthorough street is very perfunctory, while the courses in Glasgow would not suit the teachers in the Limerick district, and should be reorganised to coincide with their holidays. The text-book is an admirable book, but not for the schools.—Mr Baldwin's, which the teachers complained about, being better for that purpose. It consists of practical facts, not the principles underlying them, and the illustrations are very bad. It does not appear to be necessary for an inspector to have any training in agriculture, and an untrained inspector is no better than an untrained teacher. It would be more satisfactory for the examination to be by an expert. School gardens are very useful for the upper classes, but the teachers should be paid if a boy could pass in practice without passing in theory. For the pupils there should be a note-work, and their reasoning powers should be developed by small experiments, and for the teachers there might be Saturday district classes. The Board should supply free to the different schools collections of specimens. A boy of the fourth class can learn agriculture with benefit to himself. In Darlun University there is an agricultural course, and there are Saturday classes for teachers, but the students do not take a practical part in working the farms, though they go to see operations performed occasionally. Teachers agriculture in eight schools under the Limerick endowment for technical education. The teaching is theoretical except in so far as the pupils are induced to collect grasses and flowers, which is most desirable. The teachers do not seem to want Saturday classes. For boys of eleven or twelve all that can be done is to give them a training of the intelligence and observation, and teaching at such a stage should be called elementary science leading up to agriculture. Agriculture itself would be more suitably taught in technical colleges. Supplements the ordinary teacher's teaching of agriculture, and uses a different text-book. The teachers, if trained, are quite capable of teaching the sciences underlying agriculture, and would avail of an opportunity for training. Making the instruction practical has increased the children's interest in agriculture, 16314-413.

BRADSHAW.

There should be a garden plot of half an Irish acre attached to each school, and cottage gardening should be taught to the fourth class. In teaching, the text-book, which is too extensive, is followed too closely. Would

AGRICULTURE—continued

not expect, however, to a book, and to its being examined on, if it could be understood. It would be a good thing, and feasible, to get the children to make collections of plants natural by fungi or insects, 16427-35, 16473-8, 16496-503.

Most Rev. Dr. O'DWYER.

The elements of the sciences underlying agriculture might be taught, but not agriculture as an art. The text-book, which should be changed, and the teaching, however, should have a practical bent. Should not attach any great importance to school plots; if the teacher knows his business he can teach the children by showing them the fields in the neighbourhood. The system of extern teachers coming in to the schools is objectionable. If the average boy is required to learn a subject, then every average teacher should be able to teach it, and every inspector to examine it, and this can never be true of agriculture as an art. Having learnt the principles in the primary schools there would be for the boys in every county, technical schools for agriculture. It should be compulsory on the teachers to obtain a certificate in the agricultural sciences in the training colleges. A large proportion of them at present know nothing about agriculture, 16323-39, 16546, 16305-6, 16411-3, 16455-8.

LORD MONTAGUE.

The teaching of the practice or art of agriculture should be, as in most continental and colonial countries, in special schools, but preparation should be made for it in the primary schools. Teaching out of a text-book results, however, in learning by rote without the children exercising their intelligence or powers of observation. Practical instruction in country schools should have a definite bearing on agriculture, be specially directed to training in habits of observation, especially with regard to natural objects and should be conducted by object lessons. A school farm would not be of any great advantage, but a school garden of an acre, divided into plots, one for each boy to work himself, would be of use for putting into practical application the teaching of elementary science in the schools. The existing teachers might be trained in district classes; the future teachers, by a special course in the training colleges. It is undesirable to bring in extern teachers, but until the ordinary teachers are obtained, extern might be employed. A three years' notice might be given within which the teachers must qualify themselves. Payment to the teachers should be not upon actual passes but on the result of a general inspection. The time at present devoted to the subject should be sufficient, 16685-752.

DODDLE.

The text book is called "Practical Farming," but the examinations are theoretical. Saw a practical examination once, which had the good effect of making the children gather specimens. A school garden should be attached to each school, and for the examination the boys should perform operations in it, 16309-11, 16363-78.

LALY.

The best plan of teaching would be to send fully qualified peripatetic teachers through the schools. The ordinary teachers would welcome them. Owing to the time they have to give to literary subjects the teachers would be a considerable time qualifying. They should know it practically and not merely from the text book. The children don't benefit much from the present system, 16318-35.

APPENDIX B. AGRICULTURE—continued.

LANSERY.

Instruction in, is badly imparted now, and very useless. There should be school plots of two or six perches, in which the teachers would give instruction. The children could be taught elementary science with practical demonstrations showing the different soils, value of manures and the growth of plants, 17117-25, 17198-201, 17284-53.

PARRY.

Should be taught in the schools to children of ten years of age and upwards. The practical teaching would be facilitated by a school plot of about half an acre. The children should do the real work in the plot from the beginning. The teachers should be trained to be good teachers of the subject, but not every teacher to be a farmer. Would try to reproduce as economically as possible the conditions in the higher schools, where there is a separate teacher for each subject, 17267-81, 17331-4, 17344-51.

COTHEENAT CLARKE.

Examples of cottage gardening would be very useful, 17378. Object lesson demonstrations, and making the children collect plants and observe injurious insects and fungi would be more useful than the present system of teaching, 1616-21, 17433.

WOLFE.

School plots of between ten and twenty perches would be useful, and the new text book, while not having too much matter in it, contains sufficient information for their cultivation. There would not be any general objection by managers and parents to changing the form of teaching, which is in some cases very unsatisfactory, to something practical in the way of making collections, elementary botany, and showing plants growing from seeds, 17568-71, 17577-88, 17617-8, 17670-3.

KELLY.

Is not properly taught, and the teaching is not of much use. A teacher cannot teach it practically without forfeiting his results fees. The text book is a great improvement on the previous one, but is entirely at variance with the habits and customs of the country. The Congested Districts Board has done useful work with example plots. The teachers are favourable to its introduction, 17747, 17778-81.

HANNON.

The teachers are not sufficiently trained and don't take enough interest in the subject. A scheme should be adopted to give them a practical training, and the pupils should receive practical instruction in school plots, which might be rented from farmers. More time—at least three quarters of an hour daily—should be given to the subject, and out of school hours, and the teaching should be accompanied by illustrations and experiments in elementary science, which the teachers would be willing to come to centres to learn. Excursions should be made to well kept farms and gentlemen's gardens. Would be in favour of horticultural and flower shows. Selected schools should be made experimental stations for teaching agriculture. If poultry rearing, the egg industry and bee keeping could be introduced into the schools it would be a desirable. The existing text book is a suitable one, and if illustrated by practical experiments there could not be a better mode of education. Does not think farming could be satisfactorily taught to children of twelve years, but the taste for agriculture might be developed in them. Approves of the making of collections of

AGRICULTURE—continued.

plants and the teaching of botany by examples. Thinks the French idea of teaching the science underlying agriculture and not agricultural processes themselves, an excellent one, but approves more of a judicious abridgement of that system with the programme carried out in the text book, 17830-321.

CREAN.

The new text-book is larger and more difficult for teachers and pupils than the old one. But for results examination, would make the experiments described in the book, and this teaching would be far better. Much of the present theoretical teaching is not of much use, and should be replaced by practical teaching in school gardens of half an acre each, rented or purchased by the Commissioners. Teachers who have plots do not always use them for teaching. Thinks this is due to the fee being insufficient. For teachers an elementary knowledge of the science subjects underlying agriculture would be useful, and to pupils, teaching on this line, including knowledge of the growth of plants and botany would be interesting. Practical demonstrations would enable the children to understand the subject better. As present the children require for the inspector's examination to know nearly by heart most of the book, and the results of this system of examination are disastrous to the teacher. The pupils would be interested in making collections of plants and injurious fungi. Infinitely prefers teaching in this way, but teachers know what will pass a pupil at the examinations. Has taught agriculture for the Science and Art Department, using Professor Webb's book on advanced agriculture, and Lawrence's (published by Chambers), a book well and simply written for the elementary stage. The children understand the subject better under the Science and Art Department than under the National Board, 17940-2, 17951-5, 17974-84, 18035-9, 18032-6, 18110-3, 18121, 18143-68, 18170-62.

DOLLY.

Is in favour of school plots, but, owing to the uncertainty of the weather, they could not possibly be carried on under the Commissioners' rule that the children must be taken out half an hour each day or three hours on Saturday. The time should be left to the teacher's discretion. To give each boy a plot of his own to attend to, would be a good plan, but the school gardens are generally too small for this. The boys, however, could manage little plots at home. The teachers would be anxious that the practical work of making experiments, collecting specimens, &c., should go on side by side with the book work, which should be simplified and reduced in amount. For the former the teachers would require to be trained themselves 18245-6, 18298-311, 18354-8, 18383-92, 18415-4, 18437-30.

MACLOUGHLIN.

Is in favour of school gardens, but the parents are opposed to the children doing manual work for the teacher. Father Kelly, manager of seventeen schools, opposes them, because, in his experience, they interfere with discipline. The children, however, should be encouraged to try amateur gardening at home, by having seed and implements supplied at wholesale prices. Would like to see district model schools re-established and endowed, in which pupils could be taught scientific agriculture, and a central college in Dublin, which would give the benefit of knowledge and experience. If the school gardens were appointed amongst the pupils there is no means of compelling a child to attend regularly, and during his absence his plot would be neglected. Would approve of this system, however, in the district model schools. The teacher, if the Commissioners would accept

AGRICULTURE—continued.

his opinion, would be glad to inspect the home gardens, the inspector could examine two or three indiscriminately, and the pupils should be given prizes for successful work. In the model schools, would have pupils selected for a two years' course by a competitive examination after the completion of their school course, and after they had shown some proficiency in mathematics, physical science, or agricultural chemistry. The pupils should be boarded at the model schools. The teaching in the schools has had everything to do with the improvement in agriculture as compared with former times, 1843-5, 1844-7, 1845-74, 1848-54, 1849-56.

MORAY.

The sole object at present is the earning of results fees, by examining the pupils from the text-book. The teaching should be made more practical, if possible, either by means of school gardens, which would be very desirable, or by visits to neighbouring farms. Would strongly advocate attention to cottage gardening and the using of the land at nearly all seasons of the year. The children might be got to cultivate plots of their own at home, but the teacher could not go to every garden. Is not aware of any rule that the children are to attend half an hour every day in the school garden, 1846-50, 1873-5, 1877-82.

QUEEN.

Should be taught practically. Would be in favour of school gardens and school farms in a small way, but the difficulty in the way is the want of money. The Government should advance money for them to rent as well as to non-voted schools, and in the same way as it advances money for teachers' residences. Advocates school gardens for the benefit of the teacher and for the benefit of the pupils. If there were not school gardens the teachers might, as they do in Germany, take the children through the country and give them lessons, or ask them to collect specimens, which would give the advantage of object teaching. The children leave school about twelve, but they would, nevertheless, learn a good deal if they read the programme. The parents would object to the children labouring at the schools, and therefore this would have to make the best they could of the school gardens without much manual work by the children. For that reason a very small plot would be sufficient—say a rood—and the children should get about half an hour a day in it. The teachers, as a rule, have not sufficient agricultural knowledge, but they should be treated at Glasgow or a similar place. It would be advisable that training colleges should have farms attached to them. District model farms were tried before without success, and they would not be of very much use. The opinion expressed by the teachers on the new text-book is not favourable. It is impossible to teach all included in it in two years, and it would be more useful to have a less ambitious course and to do it more thoroughly. The teaching of the sciences as applied to agriculture, as in the French programme of instruction, would be desirable, but the difficulty would be how to teach them. Would teach girls gardening, 1915-20.

MONTGOMERY BRASS.

Suggests the selection of sixty male and sixty female skilled teachers, their training in Glamorgan or a similar place, and their distribution through the country, one of each to each Inspector's district, where on Saturdays or in Summer Courses, they would train the male and female teachers so as to enable them to teach at least the principles of Agriculture in their respective schools. The female teachers should teach in their schools the principles of dairy work and poultry management, the male teachers, a knowledge of stock

AGRICULTURE—continued.

and their management, of feeding stuffs, manures, seeds, &c., and the necessity and importance of spraying potatoes. At each district centre there should be sufficient stock and implements. Such a scheme would cost £50,000 yearly. These special teachers would also, once a year, inspect, as in the present results inspection, the work done by the teachers, and they might give one or two days to giving instruction themselves to the pupils in the schools. The instruction could be given to the pupils in an hour saved from other subjects in the school time, and should be given to ex-pupils and to farmers, their sons, wives, and daughters, in evening classes, in which the instruction would be entirely of a practical character. It is absolutely necessary that the schools should have gardens or small farms, say of five or six acres, attached, so that agriculture may be taught practically. Managers might make arrangements to rent them from farmers. Has had experience as a member of a local committee of a course of lectures on dairying by a special teacher, which was successful and produced good results. Is not particular whether the scheme suggested is carried out by a Technical Education Board or by the National Board. Any local contribution towards the scheme would be very unpopular, but it is desirable that the people should contribute something, as what is paid for is appreciated more. Does not see any decided objection to the French scheme, provided it could be kept within limits, and would not interfere with the acquisition of more useful knowledge, 1891-415.

PONTREUS.

As at present taught the course is far too extensive. Much of the matter in the book, for instance, lists of names of crops and quantities of seeds, is not of practical utility, and the teachers would be better employed teaching simple principles, 1844-7-9, 1845-63, 1853-50.

MAGILL.

Would not teach the sciences underlying it, but would give from a text-book a minimum of theory—about as much as the children could remember—and would teach them the making of drains, the planting of trees for shelter, and the utilisation of hedges for dunnage, plums, apples and pears. Should not be taught in city schools, 1856, 1856-601.

BURGES.

Instead of teaching from a book, which is mere teaching by rote, there should be practical instruction on school plots or farms. Farmers would not send their sons even five miles to a district farm, but the extension of model farms like Glamorgan would be useful for some boys. In the successful Parkman School Farm, which originally consisted of two, and now consists of fourteen, acres,—the teacher knew nothing about farming originally, but now he is one of the most successful farmers in the district. Sixteen pupils, from thirteen to sixteen years of age, are taught on it, the teacher teaching the theory from the book in school and then taking out the pupils, giving them a lecture, and setting them to do practical work. At first the parents were unwilling to allow the children to work, but the opposition was overcome by the National Board introducing a system, which the boys like, of paying them so much an hour. The instruction on the farm might be extended to others than pupils, and it might be possible also to use the farm as a continuation school for the pupils of a group of schools in the district. Would provide a school garden or farm only where the teacher has a taste for it. Thinks nothing would be better than trying experiments on the farm, and that the children would be very much interested in elementary chemistry, but that there is not much time for it in the school work. There should

APPENDIX E.

IV.

APPENDIX B

IV

AGRICULTURE—continued.

be a reasonable relaxation of the rule as to the children being taken out half an hour daily or three hours on Saturday. The boys are keen about the work and benefit from it. Does not think the ordinary inspectors are proper inspectors of agriculture. An increase in the number of agricultural inspectors, who would take charge of the agricultural teaching in the schools, would promote a great improvement. Describes successful course of lectures on dairying given in Dungannon, the effect of which however ceased when it was found that no higher price could be obtained for the butter, 189744-851.

DUNNAN.

As taught, the children very often don't know what they are talking about, and much cannot be done until there are farms or gardens attached to the schools. These should be purchased. The quarter acre attached to a teacher's residence would be enough for a school garden. There are some school gardens in the district which are doing good educational work. Has one school farm, and certainly the school has not deteriorated owing to it. It would be well if the teacher knew elementary chemistry and showed the pupils by experiments the value of manures, &c., 19886-9, 19881-3, 19903-6, 20037-37.

DARTON.

The present instruction is worse than useless unless illustrated practically. Opinion among inspectors and educationists would be generally in this direction. The teaching should be by specialists, but in time the ordinary teachers with proper training could take their place. A road would do for a school garden, but with it one could hardly do anything pertaining to farming. Teaching from a text-book only is not worth anything. Would not confine the teaching to schools where there was a plot of ground, but would introduce some text as to the teacher's illustrating his teaching by reference to agricultural operations. Pot-gardening would be a nice occupation by which the elements of botany and the value of manures could be shown, but more systematic teaching could be given by taking the children into the country. Would not allow the subject to be taught in city schools, 20042-59, 20940-6.

BRATT.

Does not think any text-book of very much good. The old text-book was a most unsuitable book for children and was rather a hand-book for farmers, 20395-9.

BARBOUR.

The teacher dare not approach a farmer to teach him the practice of agriculture—his mission and that of the text-book should be to bring the scientist and the practical worker together, so as to ensure their co-operation. Believes that it is well taught as far as the teachers are concerned. A course of elementary agricultural chemistry is a necessary introduction to agriculture and is what should be taken up in the schools instead of the practical part of the subject, 20059-61, 20570-3, 20583-6.

BROWN.

Would abolish the present system of teaching it altogether and substitute in the junior classes some lessons in the reading books for both boys and girls, on the processes of farming and the functions of plant life. But such lessons might be omitted if the children were taught in the fields. It would be well to have practical experiments in elementary science, which could be given to the senior fifth class, as an introduction to the study of agriculture as a special

AGRICULTURE—continued.

subject in the senior classes. It would be very desirable to allow the teachers to take the children out to farms to see the plants that are grown, and to give lectures on them afterwards. Botany should be taught, more or less, to all pupils. Agriculture should not be taught to girls or in city schools, 20664-73, 20687-93, 20730-6, 20753-6.

BARKLEY.

Has two school gardens in his own special district, and the work done in them is extremely useful. Would like to see school gardens extended. An intelligent teacher might find the new text-book suitable, but there are in it many technicalities and big words which convey no information to the teacher or to the child. Would teach a little elementary science as a foundation for it, 20833-47, 20964-6.

M-MENARIN.

Except for general principles, it is quite useless in city schools. As carried out at present in country schools it has no practical bearing upon agriculture as practised by farmers. Where a central school farm for a district could not be acquired, there should be school museums or collections of specimens, by which the interest both of parents and children would be stimulated. Is in favour of school plots whether rented or purchased, but is afraid there would be great difficulty in acquiring them. Would be in favour of a specialist teacher to give the teaching practical effect, 21032-6, 21052-3, 21077.

BOWEN.

There should be a small plot attached to each school where cottage gardening could be taught practically, but there would be a difficulty in getting it either to rent or purchase. Would limit the size to half an acre. A road would be desirable, but would do with less if that could not be got. In this space, would cultivate the ordinary vegetables and flowers and the ordinary fruit trees, and would teach poultry-keeping and bee-keeping to train the children in thrift and carefulness in after life. It would be a good idea to give prizes to children for the successful cultivation of flowers and plants in their own home gardens, 21109-14, 21307.

PATTERSON.

The present teaching is of very little value if not accompanied by practical work. A plot—of about half an acre—should be attached to every rural school, and there should be a latitude in the regulation as to taking the children out to it. When witness had a school garden he took the children out as the weather suited, and found that no difficulty arose. Never heard of the school fees being disallowed on this ground, 21316-35.

ATHER.

The Technical Instruction Committee of the Dundee County Council amongst other branches of technical instruction included (a) *Popular Lectures for farmers and others*. Gives particulars of courses, and varying success attending them. Arising from these courses the Committee made arrangements with the Technical College staff for (b) *Field Experiments on nine farms through the country*. (c) *Dairying*. The Committee arranged with the Dundee Dairy Association for demonstration and practice classes in cheese-making and butter-making in a number of centers. Gives the various attendance at these sessions. These have been discontinued, and a regular course at Kilmarnock Dairy School substituted, 21334. *Preparatory classes for elementary and*

AGRICULTURE—continued.

secondary school teachers were also opened where agriculture and theoretical chemistry, under the Science and Art syllabuses, were taught. The classes were largely attended by the teachers. The laboratory in the new Darnley Academy now provides accommodation for forty teachers to receive practical instruction in chemistry, 21394-5. The preparatory classes have been discontinued, 21374-5.

GALLISPER.

Considers the elements of agriculture are successfully taught in rural schools by use of text-books. Teachers can use the farms around as object lessons, 21422-5, 21433. Qualifies these remarks by reference to his experience where the teacher holds Science and Art certificates. Learning a book by heart would be useless, 21475-7. Experimental plots could not be successfully worked, and would therefore not favourably impress the farming community, 21494. The elementary agricultural course should be confined to elements of botany, chemistry, and entomology. Would not advise instruction in live stock from text-books, 21446-51. The Edinburgh University has a course for elementary school teachers, lasting a month. Considers this provision insufficient, and that the subject should be introduced in training colleges, 21457-9, 21478-9. The Glasgow and West of Scotland College has advanced enlightened views on agriculture by its experiments. It has three centres, Edinburgh, Glasgow, and Aberdeen, 21430-1, 21438-41. Its students pay Saturday visits to farms, to see the different systems pursued, but there is no farm attached to the centre, 21435. It carries out experiments on plots given by farmers, 21463-4. Explains the successful system of demonstrations with live stock carried out at the Agricultural College at Guelph, Ontario, Canada, 21433. Such institutions are necessary in Ireland, 21442-5. Advocates the establishment of such farm colleges, but is entirely opposed to farms in connection with training colleges, 21434. For real agricultural instruction, would look to schools such as the Guelph School, where the pupils are from seventeen to twenty-five, and where there is a boarding-house attached. The total cost of board and education is £15 to £20, and the pupils are remunerated for their work on the farm. Live stock instruction can only be carried out in such schools, 21430-5. In the secondary schools in Dumfriesshire the pupils get instruction in agriculture, 21436-7. In training colleges, would advocate instruction in elementary science bearing on agriculture, viz. botany, chemistry, and geology, 21467-74.

MALCOLM.

Agriculture is taught in his school, in Standards 5 and 6, by a teacher qualified at the Edinburgh classes, 21399-601.

WALLACE.

In Professor of Agriculture and Rural Economy in Edinburgh University. Describes the origin, constitution and functions of the Edinburgh School of Rural Economy, and the course of training for teachers under its syllabus, carried out at the Edinburgh University, 21413-24, 21466-75. In the Scotch schools an effort has been made to make the instruction something more than book instruction. Under the School of Rural Economy the teachers are taught methods of instruction, and are recommended to use diagrams, and models, and to get the pupils to bring in specimens every kind. Agriculture can be practically taught only on an ordinary farm, and is impossible in connection with a school. Quotes from an address delivered by him to the effect that any attempt to get the schoolmasters to teach practical agriculture would not only end in failure, but injure that success

AGRICULTURE—continued.

which should attend their efforts in teaching scientific principles, 21426-39. Recommends a course of principles of agriculture to be followed by principles of botany, after which principles of chemistry, geology, entomology, &c., 21461-5. Approves of practical laboratory work, the use of the magnifying glass, the collecting of flowers, grasses, &c. Would not put a text-book into the pupil's hands, 21454-60. Refers favourably to the perfect models of internal structure of animals, &c., as used in secondary or higher grade schools in Denmark and Sweden, 21443-50. To produce a class of thoroughly trained agriculturists, specialist sides to the higher grade school now existing would be necessary. Is totally opposed to having one great central establishment for teaching agriculture. Attaches no importance to lectures to farmers or to experimental plots, 21395-18.

TERRAN.

Up to last year the female Queen's Scholars in Marlborough-street Training College received instruction in dairying. Owing to the new programme, it was dropped, but will be renewed during the coming session, 21390. The course was confined to instruction in butter-making, and in the two years a student got twenty-two hours' instruction, 21461. Proposes the introduction of numerous subjects of practical instruction in the Training College, amongst which are horticulture for women and practical agriculture and horticulture for men, 21393-5.

DOHERTY.

In the Training College gardening should be a separate subject, not a sub-head of agriculture, in rural schools, male and female, where agriculture cannot be efficiently taught, gardening is. Collections of flowers and grasses—suitable subject matter for object lessons—should form the preparatory course in classes 1, 3, and 5. Half hour lessons twice a week would be ample. Would prefer that the examination in this subject should be by inspection. Suggests a syllabus for the higher classes in gardening for which three quarters of an hour twice a week should suffice. The work should be practical and the examination by inspection. This or some alternative subject of practical instruction should be taken, 21494-205. Would condemn mere gardening without scientific instruction. Half a rood, or even less, would amply serve all requirements, 21535-41.

CAMPELL.

Considers the course of agriculture in St. Patrick's Training College, although purely theoretical, of great value, 21454-5.

FITZPATRICK.

Has no confidence in theory of agriculture. Science connected with agriculture, if taught in the Training College, would make the teacher's instruction more practical and valuable, 21553-64. No rural school should be without its garden, and the teacher should be able to give instruction in elementary botany, 21664-5.

PAYTON.

The text-book should be abolished. Object lessons in agriculture taught in class 4, could be extended to girls schools. They should deal with growth of vegetables, flowers, collections of specimens &c. For boys, school gardens should be more general. Generally speaking the teacher has the requisite ground; if not it might be hired, 21774-88, 21802. If no ground were available, the subject should not be taught. Condemns text book knowledge. Elementary chemistry would be useful for agriculturists. Where garden-

APPENDIX B. AGRICULTURE—continued.

ing instruction is carried out, the junior pupils should be sent away at two o'clock on one day in the week, 24493-8.

THURHAM.

Is Organising Secretary of the Irish Church Diocesan Board of Education for Dublin. Gives summary of replies received to list of queries issued by the Board to managers of schools in connection, amongst which it appears that agriculture is taught in twelve schools with 604 pupils, is not taught in 71 schools with 2,816 pupils, horticulture is taught in 4 schools with 109 pupils, is not taught in 30 schools with 4,624 pupils, 25048-9.

Agriculture is suitable rather for continuation than for primary schools, 25089. The present system serves the end of obtaining facts in town as well as in country schools, 25172-3.

KINGMILLS MOORE.

School gardens extensively used would admit of intelligent instruction on plants and plant-life. The

AGRICULTURE—continued.

present text-book, which is of some practical use, could be made of much more value if the system of examination were practical, on the lines suggested, instead of being a mere results examination, 25116-8. In town schools window-gardening could be introduced, 25329-43. Scientific principles underlying agriculture preferred, 25544-8. Forming collections of natural objects should be encouraged in the schools, experiments in horticulture &c., should also be introduced, 25549-53.

FERRIS.

Advocates introduction of horticulture in playground plots attached to schools, 25689.

JOHNSON.

Instead of the present book-work the teachers should teach the principles of botany underlying agriculture, and practical illustrations of the principles underlying the growth of plants, 26029-37.

ALTERNATIVE INDUSTRIAL SCHEME

BROTHER THOMAS.

Is a co-operative failure in the country on account of the expense. Has been principally carried out in convent schools, 14434-5.

SKEFFINGTON.

Was taken up largely in Waterford district, but many of the schools, including convent schools, have given it up, 14401-3, 14514-5. Describes the scheme and the distinction between needlework in it and ordinary needlework, 14402-3, 14461-9. The teachers think two hours daily for needlework too much, 14403, 14404, 14458, 14475-7, and in this respect there is no difference between trained and untrained teachers, 14454-6. Dressmaking is included in the industrial scheme, but united with sewing machine it is an extra, which is largely taken up in the convent schools where the industrial scheme is not, 14404-6. The ordinary needlework is as well done as, and in some cases better than the industrial, 14456-8, 14477, 14483. The reasons the scheme was not adopted in Belfast were the cost of materials, the want of a market, and the dwelling habits given to girls by two hours needlework, 14458. Describes generally the objections to, 14484, the literary proportion of, 14470-1, 14478-9, 14483-7, and the effect of it in displacing literary subjects, 14479. It was understood that three hours were to be given daily to it, but that time was not prescribed, and now two hours daily suffice, 14472-4. Its want of popularity is not due to absence of skill on the part of the teachers, as the same branches are taught outside the scheme, 14483. It is more successful in convent schools than in ordinary schools, 14488.

T. J. ALEXANDER.

Has not succeeded, having been given up in many schools where it was tried. Explains the scheme and the difference between it and the ordinary needlework programme. To make way for the two subjects (out of a list of 16), which had to be taken up, arithmetic, dictation, grammar and geography were done away with, and practically nothing was left but reading and writing, tried by composition. The expense of materials, the fact that it was too ambitious, and that it was optional, and that a great many of the teachers had not the necessary technical knowledge, interfered with its success, 15173-80. Was given up in the Cork Model school because of the opposition of the parents, who objected to its interference with the literary course, 15193-4.

MISS SPENCE RICE.

Its failure consists in so few schools taking it up, where taken up it has not failed. Two hours a day for needlework are quite unnecessary, and would substitute for one of the hours another industrial subject. Would prevent girls attending a mixed school unless there was a workmistress, and would give a workmistress if there were 12 or 15 girls, 30 being necessary at present. Needlework must be taught to girls when they are young, but the mothers hardly ever teach it. To make the scheme acceptable to parents they must be convinced that the literary programme will not be interfered with. Would not exclude arithmetic from the scheme. The needlework taught should be of a comparatively humble and useful kind, including the repairing of garments. Is Hon. Secretary of the Linen Branch of the Irish Industries Association, which has taken up 78 schools as regards needlework. There are 37 lady visitors, who give prizes, which have a stimulative effect, both as regards attendance and work. The teachers should be given an opportunity of attending classes in this subject at centres. The children should begin needlework younger than at present—say, at four or five—and should be taught needlework drill, the practice of which makes the English children, though they give only two hours and a half weekly to the work, superior to the Irish children, except in convent schools. Good results come from the constitution of the ladies' committee, and the teachers and managers like it. Would include plan dressmaking in the programme. Local persons should supply the materials. The children, following the good example of the teachers, do bring clothes to mend. Does not think masters would teach needlework. Would be loath to retain the five hours' needlework, but, if necessary, some of the time might be given to housework, 15724, 15757-8, 15761-3, 15780-83, 15807-25, 15828-31, 15877-80, 15880-1, 15902-7, 15924-6.

G. BATHMAN.

For ordinary sewing, ample time is given. Would remodel industrial programme to make it popular, by requiring only one hour's needlework daily. In domestic economy would prescribe only half the text-book for the first year, thus leaving plenty of time for other important subjects. There should be a two or three years', instead of a one year's, course of sewing machine and dressmaking. Would allow composition subjects to be given from books, such as geographical

ALTERNATIVE INDUSTRIAL SCHEME—continued.

readers, and would have certain time given to arithmetic. Would reduce the average for a workmistress to ten, excluding infants, but in such small schools the grant need be only £8. One of the obstacles to the scheme was the ambitious nature of the programme in composition. *Liverick* district, in which there are only three mixed schools in which needlework is not taught, because of the want of a workmistress, compares favourably with other districts, but to supply a workmistress for every school in Ireland would not involve a large expenditure. Payment may be made twice under the scheme, increased proficiency however being required in the second year. Arithmetic is not contained in the present scheme but a grant may be given for it in a school where the scheme is adopted, 15983-5, 16011-6, 16044-8, 16059-63, 16067-75, 16092-6.

BRADSHAW.

Never met a parent who approved of it, 16447-8.

WELFLE.

Has been given up in some schools because the parents look upon it with disfavour, and has been retained in some through apathy, 17572-6.

HANSON.

It is quite impossible to carry it out in small schools with one teacher. Parents object to it, 17854-6.

CEYAN.

Its introduction stopped the attendance of the children, the people saying that if they want their children to learn a trade it is better to send them to a proper place for the purpose, 17960-1.

MORAN.

Has not been taken up in the Belfast district because it was not popular with the parents, and because of the difficulty of providing materials. The parents objected on account of the time devoted to needlework, preferring that all the time should be given to literary subjects, 18671-2, 18673, 18703-7.

FORKEE.

There could not be as much earned by the teacher at it as would buy material, 19495.

MAGILL.

Is not sure that it is any advantage for girls to be taught ecclesiastical embroidery and fancy work, and thinks the course should be confined to giving the girls a deft use of the needle so as to interfere as little as possible with the literary training, 19516-63.

BURKE.

Intricate arithmetical operations, as in decimals and stocks, and even in proportion, could be eliminated from the programme. Other problems not involving the same amount of mental labour would be of greater importance in developing intelligence. The continental boy, having the decimal system, has a great advantage over the boys of these countries in calculation, 19665-6, 19669-70.

DENNERT.

Necessity of calculation in matters of obvious requirement in daily life, such as short accounts in

ALTERNATIVE INDUSTRIAL SCHEME—continued.

PERLOW.

The great objection to it is that the parents think the children should go to school for literary and not for industrial training. Another objection is that made-up materials are very cheap, 20283-6.

BROWN.

Was given up in schools which formerly had it because the teachers, parents, and pupils were not in favour of it, 20810-2.

M'MENAMIN.

Exemption from it was obtained because the sixth class girls and their parents considered the two hours given daily to sewing, not of practical utility, 21037.

PATTERSON.

Has found that the parents will not take it up at all, 21288.

TREGAR.

Until a few weeks ago the programme was in operation in the Marlborough-street Central Model Schools. Considered years ago that it should be modified. It was too extensive and was found not suitable to the circumstances of the children, 24148-52.

DOWKETT.

Although the industrial programme is now abandoned in the Central Model Schools, the work is still sufficiently extensive with the ordinary provision for needlework, 26311-7.

TRISTRAM.

The former provision for needlework was too elementary, but the industrial programme devoted a disproportionate amount of time to elaborate needlework, 26691. The prevailing view is that art needlework might be dispensed with, while mending, darning, repairing garments and making dresses might be retained, 26114-7.

MARAPPE.

Two hours is an excessive time to give to needlework. If one hour be properly utilized a higher standard can be reached. More attention is now being paid to seeing that the teachers know how to teach needlework, 26248-50.

KINSMILL MOORE.

Needlework had been much neglected when the industrial programme was introduced; it was the opposite swing of the pendulum and provoked a rebellion. Two hours a day was too much, 26427-8.

ARITHMETIC.

proportion and practice, should be substituted for the higher rates. Would prefer to introduce memorization rather than higher arithmetic. Mental arithmetic should, but does not, affect the results fees. The metric system gives other nations an advantage, 19433-8.

GAMER.

The pupils should be fairly quick and accurate in ordinary calculations of prices. Mental arithmetic is at present taken into account in estimating results fees, 19882-5.

APPENDIX B. ARITHMETIC—continued.

BROWNE.

Practical measurement should be joined to the advanced course, but the parts that need be joined are not so heavy as to involve an omission from the present course, 20815-8.

BARDLEY.

The programme for girls is too high, for boys it is fair enough. Would leave out all beyond commercial arithmetic, would retain square root, but instead of cube root would include measurement. This would not increase the labour of teaching, 20851-3, 20855-8.

M'C. MURRAY.

In Edinburgh arithmetic is taught without text-books, the first part of every lesson being a mental lesson. In some cases, if the inspector is satisfied with the teaching, his examination is confined to mental arithmetic, without using any test-card. To practice for the examination, sets of printed cards are used for the last month or two; but the masters never touch from them. Finds the pupils who are the quickest, are the most accurate. Quickness should be insisted on. Considers it the same of wrong method to give out sets of sums, giving an indefinite time to do them in, 22332-8.

SCOTTAL.

Notwithstanding that freedom of classification is theoretically introduced under the present Code, the

ARITHMETIC—continued.

subject which actually determines the classification of the children in the Scotch schools is arithmetic, 22551-2. Would prefer intelligent reading as a basis of classification, 22653-5. Does not think the teachers have realised their freedom as regards classification, and its advantages, 22641-4.

O'NEILL.

Adult pupils show that they have not been taught to regard arithmetic as of practical application. Illustrates how it should be introduced in such subjects as geography, 22814-9. Considers a great deal of time is lost in acquiring our complicated system of arithmetic. The teaching of work by decimals is of the greatest importance, and is the first thing he teaches pupils who come to his school for technical instruction, 22831-6. Arithmetic, practically applied, children regard as problems which they cannot do as apart from sums which they have been taught to do, 22859-60.

KEIR.

To develop quickness of observation in the pupils in Standards 4 and 5, has introduced a blackboard—which is now in use in some schools in India and Glasgow—revolving on a vertical instead of horizontal axis. Describes its use in arithmetic, map drawing, &c., in giving habits of accuracy and observation. Would cut down the time devoted to arithmetic to one-half, and believes that thereby the results would be one-half better, 22545-56.

BOOK-KEEPING.

BURKE.

Finds its teaching of great advantage to boys who engage in commercial pursuits, 15098.

M'MENAMIS.

Is essential for city schools, and should be taught on more practical lines—more as it is carried out in good business houses, 21078.

MACRAE.

Book-keeping is not taken generally in the schools in Edinburgh, 21807-9.

SCOTTAL.

Would prefer manual instruction to book-keeping as a subject of instruction, 22656-7.

TAYLOR.

In Solennes evening school, book-keeping is most commonly taken of all subjects. Considers it should not be taught until elementary education is completed. Would condemn any system which would make it an obligatory subject in the schools, 22085-90.

CALDER.

In the Dundee School Board's continuation schools book-keeping is largely taught: it is also, to some extent, taught in the day schools. Considers it should be confined to continuation schools, 22912-23.

CALISTHENICS.

BATHMAN.

Would advocate calisthenic exercises in all female schools and in the training colleges. At present where taught the exercises are merely perfunctory, 16971-3.

MAGILL.

Would advocate introduction of calisthenics. Athletic exercises would develop manual dexterity, 19668, 19422, 19635-5.

DALTON.

Drill would be most efficient in securing good discipline in the school, showing pupils how to walk properly and improving their deportment, 20688.

CLARKE.

In his schools, has introduced drill classes on Saturday, which are very popular. It makes children respectful, alert, obedient, and orderly, 20537-8.

BROWNE.

Considers the kindergarten drill of great use, 20422.

CARRIE.

Drill exercises could be given to both boys and girls between classes without infringing, to any appreciable extent, on school time, 20948.

M'C. MURRAY.

Gives order of time in Solennes School, Edinburgh, showing half an hour per week at the gymnasium, and forty minutes for swimming lesson, 22249.

KEIR.

Might claim to be the pioneer advocate in Glasgow of physical drill. It is now paid for under the Scotch Code, and a school to obtain the highest capitation grant must include it in its curriculum. In his school—

CALISTHENICS—continued.

the Allen Glen's School—look half an hour, from two hours mathematical class, for drill, with the result that the boys do better work, 13319-25.

KINGSMILL MOORE.

Since the foundation of the Kildare-place schools, from 1818 onwards, drill and calisthenics have always been a speciality there. They are the keynote of order

CALISTHENICS—continued.

and discipline in a school and are most attractive. Agrees that it would be a most useful thing if a special grant were given, as is the case in England and Scotland, for higher organisation, which should include drill and calisthenics, 13454-9.

FURBER.

Advocates drill exercises for the schools, 13490.

COOKERY.

SKEFFINGTON.

In three local schools in which cookery was taught, the pupils were enthusiastic, but difficulty was caused by the expense, 14431-3, 14439-501. Explains the system adopted and gives details of the expense. The cooked articles were sold to the pupils and others, but it is not in every school that the pupils could purchase them, 14434-49. A number of convents are anxious to take it up, 14449, 14591. Advocates the extension of the teaching of, as a great advantage, 14517-21. By the teacher cooking plain dishes on the school fire and instructing the pupils, the difficulty of providing materials for teaching cookery in rural schools would be avoided, 14518, 14523. Looks forward to the teaching of it by the ordinary teachers, who could themselves be taught by lectures or in classes in towns, 14524-6.

T. J. ALEXANDER.

Has not aroused hostility, because it is taken outside the ordinary school hours, and does not interfere with the ordinary curriculum, 15188-9. The course should be a two years' one, and the programme more practical, with a view of producing housekeepers and not cooks, 15205.

SMITH.

Should be taught with laundry work in all girls schools on Saturday, and two-thirds of the expenses of materials should be paid by the Government. Every female teacher could become an adept in both subjects, 15240, 15302-4, 15347-8; and could acquire the knowledge in Saturday district classes under an expert. Cookery is largely taught in convent schools, and in other schools in Cork it is taught by an itinerant teacher, who gives twenty lessons, which are quite insufficient, 15261-5, 15281-3, 15296-9, 15293.

E. J. MURRAY.

Should be taught by the ordinary teacher, as there is often friction between the ordinary and extern teacher, 15394.

DENNEY.

Should like to see it taught, but not as at present—high class cooking with a range—there being no range in the majority of the peasants' houses. But cookery and laundry work, which do not develop the intelligence, ought really to be taught in special schools, and only to those who want them, 15399-5, 15566.

Miss SPENCE RICE.

There should be itinerant teachers in the schools in rural districts (including large villages) for teaching cookery and laundry work to pupils and teachers. The ordinary teachers, however, should teach the subjects afterwards, if they have the ability, and should be given the opportunity of learning them in Saturday classes. Thinks the teacher should go through the whole course before teaching, but she might, when

half-trained, begin, the expert being there to correct her. These Saturday classes might include mountaineering and others. The classes for pupils should be once a week all the year round, or, in the case of widely-separated schools, there should be two lessons a week for half the time. That system would be more educational than classes once a year only, for the whole course. The girls should begin at ten or eleven years of age. Had classes in two villages (in which the children seemed interested and attended fairly well), using the infant school for three, cooking upon the school grate with a portable oven, and selling to the scholars, without any loss, what was cooked. For laundry work, the Commissioners of National Education should supply all the appliances, the children the articles to be washed, for cookery the local people should supply the materials. In the classes referred to, the children's ages were from eleven to fourteen, the cost of utensils for cookery and laundry was 43 *fr.*, and the dishes made were extremely simple. Had the teachers for twelve weeks with two lessons a week for each class, and is anxious to start it again. The same thing might be done in other schools throughout the country. Cookery, which should be included in the industrial programme for 6th class girls, should ultimately be made compulsory. The classes should be for the children receiving literary instruction in the schools, if they were disinterested from the schools and open to all, the children would not attend. Suppress the itinerant teachers, for whose classes could be grouped to form a centre, would require £60 a year. The Government should bear the expense; if the girls had to pay, then it could not be made compulsory, and without compulsion it would fall through. 15732-43, 15735-40, 15764-83, 15788-9, 15804-6, 15826-7, 15840-76, 15892-951, 15923-3, 15938-16.

G. BATEMAN.

Is taught principally in convent schools, but should be taught in all schools, even where there is not an expert, by a two or three years' course. The course should be of the simplest kind and given in one or two lessons a week for part of the school year. Would be inclined to give more than twenty lessons. Is the most pressing need for girls, and one of the most pressing needs for rural schools. Should be compulsory on all female teachers. Would not be an insult to the masters to require them to teach it. 15951-3, 15996-16,004, 16,008, 16,040-3.

BRADSHAW.

The great difficulty of teaching it is that the pupils have to cook under different conditions at home. Does not object however to the teaching of the subject in girls schools, 16437-40, 16444-6, 16450-1.

Most Rev. Dr. O'DWYER.

The training in primary schools should not be to make cooks, but to teach the pupils to cook their own food. The apparatus with which a first-class cook measures things could be got only in a technical school, 16521-4.

APPENDIX E. COOKERY—continued.

LALLY.

It is all-important that the teacher should be well qualified. The comparative failure of the industrial programme in cookery, dressmaking, and needlework, is due to the inefficiency of the teachers. Where competent teachers were sent round by the National Board they were not supplied with proper appliances and materials. The qualified teachers might take all the schools within a radius of five or ten miles. It would be quite enough to teach the principles of cooking and not to teach the children to be cooks, 16909-14, 16936-42.

LUNNEY.

It would be very difficult to provide materials in rural schools. There should be a separate room for it. It would not be feasible for the teacher to teach the children by cooking her own dinner, for they would only laugh at her, 17139-42.

ONIAN.

Instruction in practical cookery would improve a girl's education. A difficulty is the getting of material, but if a grant were given it would be popular, 18131-5.

MORAN.

Should be made compulsory in all the female training colleges and in the schools where teachers held certificates. Where the teachers are not trained it should be taught by itinerant teachers until the ordinary teachers are sufficiently qualified. The instruction should be carried on throughout the year and extended as much as possible to the rural schools, 18668-9. In large cities, might be more efficiently taught in centres by experts, 18774-7.

MAGILL.

Does not see how it could be taught in nineteen-twentieths of the schools, however desirable, 19557. The difficulties are the getting of a room for it, and the provision of the apparatus. If a stove were put into one of the classrooms for the purpose, the subject would have to be taught after hours, 19557, 19602-9.

DALTON.

The teaching of it is advantageous, but the managers all complain of the expense, while the pupils drawn from the mill population don't seem to know the meaning or advantage of it. A continuation class in the school classroom after school hours would be admirable for it. Something should be done to show the children how to keep their houses comfortable, and therefore domestic economy, hygiene, &c., should be taught, 20247-50.

SEWELL.

Is strongly in favour of cookery and homecraft being taught, and thinks that girls should be obliged to take up a course of cookery for their last year. Her last an evening cookery class which was well attended, not by children, but by grown-up people, and which produced fairly good results, but could not, with the present programme attempt it in the schools, though he would like to do so. The instruction was in the classroom with a gas stove, and consisted of twelve lessons given by an expert, for whom payment was provided by charging 1s. to each pupil. No grant was given by the National Board, but a grant would have been of considerable assistance. In addition to cookery, the children in the schools should be taught how to keep houses, how to make and mend clothes, and the principles of laundry work. It would be easier

COOKERY—continued.

to have the expert teacher visiting the different schools than to have the children visiting a centre. There are elements in Belfast which would make the latter course difficult, if not impossible, 20431-41, 20453-61, 20484-91, 20501-10.

R. J. CLARKE.

Has tried it in evening classes for ex-pupils, which were very successful and exceedingly popular. The teacher was a Scotch lady, and the lessons cost 3s. 6d. an evening. One hundred and twenty tickets for the course of twelve lessons were sold at 1s. each, and paid all the expenses. The second winter the classes were not quite so popular. Could easily be introduced into the schools after school hours, say from four to five, and a good many of the girls would come back. If certificates were given some of the assistant teachers would attend classes and qualify. If good results were obtained the manager and teachers could induce the pupils to continue to attend. For the evening class an application was made to the National Board for support because of the rules and restrictions, 20531-48.

BARBOUR.

Has a class of practical cookery in connection with the Carrickfergus Model School. Was taught by an extern teacher during the first session, and is now successfully taught by the head mistress of the girls school. All the sixty presented at the last examination passed, 20550-5, 20567-8.

BROWN.

Time could be found for it and domestic economy by taking two hours from the time now given to needlework. Domestic economy, is in fact, more important than needlework, 20623-4, 20775, 20820.

BARTLEY.

There were two classes opened in Cookstown and taught by an expert sent by the Commissioners, a local committee supplying the materials, but though there was enthusiasm at first, it lasted but a short time, and the classes are no longer held. If the ordinary teacher were qualified and carried on the teaching continuously it would not be a great advantage in the country, though in the towns it would have a chance, 20945-57.

GARRIN.

Would introduce domestic economy and cookery in a central place with all the necessary appliances, to which the children from the city and surrounding districts could be drafted. Saturday might be used for this purpose, and an afternoon in the week, by dispensing with certain lessons, 20988, 21005-7.

M'MENAMEN.

Would be in favour of devoting some of the time gained from needlework to cookery, and to having it carried on, if it could be done, in the classrooms, but would be more in favour of a central building with a special teacher, to which the children would be sent compulsorily in rotation from the different schools. The evening would be the best time for it. The children able to do so should bring materials, but there should be a grant to assist the poorer children. In rural schools the teaching of it in a modified form would be possible. It would be practical, and a step in the right direction for the teacher to cook her own dinner before the children, 21039-44, 21063-5, 21080.

COOKERY—continued.

Aiken.

The Technical Instruction Committee of the Dumfriesshire County Council in 1892 established day and evening classes in the towns, for demonstration and practice in cookery. Subsequently they were extended to rural districts, a second instructor being engaged, and thirty-seven classes were held in rural centres. Small fees were charged, and the classes, for a time, were well attended, 21324. The attendance fell away when the novelty disappeared, and the classes were discontinued. The ages of those attending ranged from twenty upwards, would prefer the instruction being given in the elementary schools, 21329-32, 21376-8. The committee also established classes for elementary school teachers, 21325. Put in a tabular statement containing amongst other things the number of pupils who passed in cookery from the various School Boards through the county, from 1892-3, 21326.

Malcolm.

In Leckerslie School, cookery is taught in Standards five and upwards by a certificated mistress who also takes needlework. The pupils are taken in classes of twenty to twenty-four, each class being taken for seven Fridays, from 9 a.m. to 5.30 p.m., being forty hours instruction per annum. The children are provided with a dinner at 1d a piece which covers the expense of materials. The instruction consists of practice and demonstration lessons alternated. It is popular with pupils and parents, and does not diminish the literary efficiency. The cost of the plant was about £10. From experience does not approve of continuous afternoon instruction, which interferes with the attendance at the literary classes. Arranging so that the pupils should purchase the materials and keep accounts, would be of educational value, 21616-42. The cookery mistress gives domestic economy instruction, *pari passu*, but there is no practical work in this subject included, 21648-8. The grants earned for cookery do not pay the mistress's salary, 21649-52.

Macrae.

In Edinburgh, nine of the School Board schools utilise the same room for cookery and manual instruction. The arrangement works well and is economical, 21683-7. Instruction in this subject tends to keep the children at school in the advanced standards, 21745-8. It is taught in all the schools, and the Board, after ten years' experience, is inclined to extend the subject rather than curtail it, 21814-7. It is also taught in four or five of the Board's continuation schools, 21838-42. It is popular with both pupils and parents, the only objection being the increase in the rates, 21831-4. Prefers teaching cooking in the ordinary schools to teaching in centres, 21936-7.

Gray.

Under the Edinburgh School Board, the entire cost of the cookery instruction is defrayed by the grants gained, 21909-42.

Graham.

A schoolroom is kept cleaner, when cookery and manual instruction are given alternately in it, 22047-50.

McCl. Murray.

It is taken on the same conditions as a specific subject under the Code, special arrangements being made as to hours of teaching, number under instruction, 22085-7.

COOKERY—continued.

Scottish.

Gives reasons for postponing cookery instruction until children are about twelve years of age. In Leith schools it is taught in Standards 5 and 6, and to some children in Standard 4, 22542-3.

Miss Wright.

Is Honorary Secretary of the Edinburgh School of Domestic Economy, which makes arrangements for teaching cookery to teachers, both high class, and artisan or plain cookery. The minimum course is eight months in the former and six in the latter, 22139. The instruction should be thrown as far on in the elementary school course as possible, as at an earlier age children do not benefit adequately from it. Approves of arrangement made by the Board that children under Standard 3, or twelve years of age, should not receive instruction in cookery, 22740. Prefers specialist teachers, as ordinary teachers find it impossible to take out a sufficiently thorough course and cannot give the subject fair prominence in a multitude of subjects. In Leith and Edinburgh the teachers are specialists, 22791-2, 22903-4. Ordinary teachers object to the disarrangement resulting in their classes from the children being taken to cookery during the ordinary instruction, 22794-5. The Edinburgh School of Domestic Economy is mainly concerned with the artisan and plain cookery, 22804. A teacher cannot do justice to over fourteen pupils in a class, 22807-8. The School of Domestic Economy made a representation to the Scotch Education Department to have facilities afforded it for training teachers by teaching actual classes of pupils, 22810. Would co-ordinate the cookery instruction with reading and dictation, 22812-3.

Miss Stevenson.

The conditions on which grants are paid by the Education Department for cookery, are that theory of domestic economy is taught, that twenty hours' practical work is done by the pupils, that twenty hours' instruction is given, that no class contains more than twenty-five girls for the practical work; and a grant of 4s. is given for each girl. A grant of 2s. is given for classes of twelve, receiving in all twenty-four hours' instruction. Prefers the smaller number of pupils in admitting of more individual instruction, the number of hours should, if possible, be not less than forty. If the practical classes were limited to fourteen, forty hours would be sufficient. The grant is given for girls in 4th Standard and upwards. Considers that to give instruction to girls under thirteen is a loss of time. The average age of girls in Standard 5 is between eleven and twelve, considers this too young to produce practical results. Under present arrangements they get all their demonstration lessons at one time, the practical lessons being often given many weeks after. The practical lessons should follow the demonstration. This could be more easily arranged in small rural schools. The subject should be taken up after the 5th Standard, and should be confined to evening or continuation schools. Formerly, under the Code of 1884, the subject was taught only as a branch of domestic economy, which was taken as a specific subject. In 1896, 2,538 girls were taught cookery in the Edinburgh schools, 22861-76. The reason why the subject is taken up in Standard 5 in the Scotch schools is that so many subjects are taken up in Standard 6 to earn grants, that it is impossible to find sufficient time to take up the cookery lessons, 22904-7. While maintaining that it should be postponed to the conclusion of the ordinary school life, admits the usefulness of teaching in schools that there is an art in cookery, and that there are principles underlying it. As at present taught, the appliances in the school are more elaborate than the children have in their own homes, 22909-12.

APPENDIX B. COOKERY—continued.

GUTHRIERSON.

The Glasgow School Board has forty-seven centres for cookery. It has been compulsory for ten years for girls in 5th and 4th Standards, 23067.

MISS PATTERSON.

Of the forty-eight centres under the Board, fourteen are centres for 35 schools, and the thirty-four remaining schools have each a kitchen fitted up. Would object to their being used for any other subject of instruction. The number of pupils under instruction in 1896 was 7,781—grants were received for 6,811. There are two courses permitted by the Scotch Code, one of forty lessons per year, carrying a grant of 4s a head, 6,367 pupils attended in 1896. A course of twenty lessons carrying a grant of 2s a head was attended by 444 pupils. The Scotch Code permits twenty-four pupils in a practice class, prefers twelve or fourteen. The School Board allows the head master to decide whether the pupils are to be taught in Standards 4 and 5, or 5 and 6. In 1895 in 42 schools, instruction was given in 4 and 5, and in 25 schools, in 5 and 6. Would prefer a weekly lesson throughout the year to the courses of twenty lessons, 23224-24. The School Board, not considering one year's course adequate, gives pupils who will leave after Standard 5, a course also in Standard 4. The schools in Scotland being mixed, difficulty is found in getting time for separate instruction for the girls. Head masters have endeavoured to meet it by giving cookery after school hours. The pupils object to this, 23202-5. Explains the usual arrangements for practice and demonstration lessons, 23285-91. The prevalent opinion is that the subject is an essential part of elementary school work, 23274-6. The grant is paid on attendance, not on examination. The subject is popular with pupils and parents, 23293-4. As a rule there is no loss on the materials, which when cooked are sold to the scholars and class teachers, 23239-42, 23295-8. Gives cost of salaries of teachers, utensils, materials, &c., balance in hands in 1896, and total cost per pupil, 23248-52. As far as possible the apparatus used is of the simplest kind, 23277-8. Domestic economy is taught as portion of the cookery instruction. As men cook work, it is taken in twelve schools under the Board, 23238-9. The Glasgow School of Cookery, under the National Union, trains teachers according to the regulations of the Scotch and English Codes. As a rule the candidates are not drawn from school teachers. The course is six months, which is not sufficient to train in method of teaching. Gives particulars of the course, and examinations to be taken to gain the diploma, 23235-8. Is the only school in Scotland associated with the Liverpool National Union. The Edinburgh school did belong to the Union, but left it, considering the course required too long, considers this view has been modified with experience, and they now realise the necessity of a longer course. The Scotch Department requires only 200 hours training, in a period of not less than four months; the English Department requires 500 hours, in not less than six months. The Glasgow school considers the latter course necessary to train teachers to teach. Would not advise accepting teachers with the lower qualification, 23257-73. The candidates pay eighteen or twenty guineas for the course, getting a diploma, which includes high class cookery; for fourteen guineas they can get the ordinary diploma. There is moreover a special certificate for trained teachers, the course for which only costs six guineas, 23276-85. The examination is both theory by examination papers, and practice, in which the visiting consumers hear the candidates teach. The candidates get practice in teaching in classes for the public and for children. Finds the only difficulty is to get the children to attend, this is done by arrangement with the School Board, 23202-8. The teacher's

COOKERY—continued.

diplomas in cookery and laundry work are quite separate, although under the Board the same teacher takes both subjects, 23210, 23230-2, 23265-61. The grant for cookery instruction is paid on the actual attendance, not on individual examination, the inspector, as a rule, merely satisfying himself that the equipment and provision of instruction is adequate, 23280-96. The inspection under the Scotch Department is largely delegated to the School Board, 23244-6.

LOW.

The Dundee School Board started evening classes in laundry work and cookery, but not with a large degree of success, 23218-21.

MACDONALD.

For three seasons the Dundee School Board employed a special teacher of cookery for the benefit of poorer girls not attending evening classes, and employed specialist instructors, who also taught them the elements of domestic economy, 23270-1. Cookery instruction is given in all the day schools to the girls in Standard 4 and upwards, the Board having four specialist (efficient) teachers, 23222. Considers it a suitable subject of instruction for day schools, 23268-9.

CALDER.

In Dundee, under church organisations, there are a number of evening classes for cookery and other subjects of practical instruction. The School Board tried cookery and other practical classes as a bait to induce girls to attend for literary instruction. The girls while eager to attend the practical classes, would not do so on the condition of attending also the literary classes, 23296-13.

TIDMAN.

In Marlborough-street Training College all the female Queen's scholars receive instruction in practical cookery, 23278-80. During recent years they have all succeeded in obtaining certificates, 24160.

DOHERTY.

Some such subject as cookery or domestic science should be compulsory for girls. Holds that cookery could be introduced into any National school. Illustrates this by reference to the classes at Marlborough-street, which were made self-paying, the pupils buying the dishes they had themselves made, 24221-2.

HAMILTON.

Describes the single course of cookery instruction given in the Dundee Female National School, of which he is manager. The parents desired to have laundry-work added, 24205-61. Finds it involves no material alteration in the time-table. On the day given to cookery no needlework instruction should be given, and one hour additional after school hours should be added. It is extremely popular with the girls. A full set of utensils should be provided by the Board. Would prefer giving the instruction in his school to sending the pupils to a centre. Mrs Hamilton provided the materials, which when cooked were in some cases bought by the pupils. The hours were from two to four every Friday. All his pupils, with the exception of two, passed the inspector's examination, 24271-85. The course was given by an mistress from the Kilburn street institute, who was extremely satisfactory. Applied to the Board to have her services for a second course, but was informed that the ordinary teacher should give any further instruction. Owing to the difficulty school teachers find in making time to give the instruction it is most desirable that the Board should provide instructions, 24262-5010. Agrees as to the educational importance of the subject, and

COOKERY—continued.

that praise is due to the Board for its efforts to get adequate provision made for it by the Treasury, 25014-31. An objection would arise to the centre system of instruction only where pupils would have to walk long distances, 25032-4.

THURMAN.

Is Organizing Secretary of the Irish Church Diocesan Board of Education in Dublin. Gives summary of

COOKERY—continued.

replies received from schools under its control to query—"Have you any classes in cookery?" 35046. Elaborate processes should be avoided, and only the simplest insisted on in the subject, 25074-7.

PUNTER.

Would be inclined to teach the subject in the highest classes only, and to take two hours from the needle-work instruction for it, 25721-3.

DRAWING.

BROTHER THOMAS.

Compulsory in De La Salle college on all teachers because of its great utility in the schools, 14259-61, and should be compulsory in both town and rural schools, 14,401-3. Up to the present, programme was not compulsory in training colleges—it was an extra, 14,385-7. Is now more sought for by managers, and when well taught, children take an interest in it; they take no interest in it as taught in National schools, 14,369-5. Describes defects in system of teaching it by untrained teachers, 14,388-92. The college students could all qualify for the ordinary drawing required in National schools, 14,334-5, and about 50 per cent show a very good aptitude for it, 14,354-6; but it would be preferable for an authority outside to grant certificates, 14,338. They are taught both model drawing and drawing from the free, 14,378, including blackboard training, 14,361. They should get certificates for one kind, but he would encourage them to take both, 14,374-5. Geometrical drawing should be encouraged, 14,377; considering the subject itself the percentage of marks for certificates is not too high, but considering the question of encouraging it, the percentage is too high, 14,377. A certificate gained by examination is no proof of ability to teach, and a teacher without a certificate should be allowed to draw if he showed good results, 14,378-9. In elementary schools, should be confined to freehand and scale, with model drawing for more advanced classes, 14,337-9.

SKEPPINGBROS.

Should be taught all through the school from infants up, 14,421-4. Teachers could be taught in the training colleges and in art schools in the towns, 14,534-5, 14,513. Theoretically, the manager, but practically, the teacher, decides whether it should be taught, 14,537-9. Teachers should be compelled to teach it, or forfeit their certificates, 14,536.

GOGARTY.

Is compulsory in Lisnave school, should be introduced into all the primary schools, and should be compulsory on every teacher, 14,785-7, 14,812-3.

BRUCE.

Is of the greatest importance, next to the "three R's," to the boys in elementary schools. Has a wonderful effect, like manual instruction, in refining the children, cultivating their taste, and giving them accuracy of eye and precision of hand. Is an excellent manual instruction, making with the Lloyd system, and forming the basis of it. Influences also the children's home life, and in the Artisan Industrial school, has a great effect upon the boys when they go to trade-schools; be compulsory in all primary schools, 15,050, 15,058-61, 15,075-7, 15,088. Is very difficult if not learned in early life, and therefore should not be made compulsory on teachers for some time, 15,036-8, 15,063-4, but should be introduced at once, 15,073.

POWELL.

Should be made gradually obligatory in all schools, and taught so as to develop the intellectual qualities, 15,130. The difficulties as to the teachers ought all to disappear, 15,130, 15,139-40.

T. J. ALEXANDER.

Should be made compulsory after a reasonable interval, but the sooner the better. The training of the teachers is the difficulty, and the existing practice, which does not test the teacher's ability to teach, should be changed. The teachers past middle age, or who have been already trained, could be tested by an expert in centres. After passing the theoretical test the inspector should visit the school, after a short interval, and make the practical test. It would be wrong to allow a teacher, without a certificate, to teach, there being hardly any subject more unsuccessfully taught. For the pupils, the subject should be begun in the kindergarten and continued through all the classes to the sixth. Suggests drawing from objects and practical geometry from fifth class up, 15,159-71, 15,200. There are teachers in whose schools the teaching of drawing is a very distinct success, but the success is relative, not absolute. They meet an insufficient test. The pupils' attention is not drawn to the necessary pre-analysis of his copy. Does not know whether it is taught in the training colleges. Instead of making it compulsory at once, experts should come among the teachers, who, thus instructed, should be induced by a sufficient result for to take up the subject, 15,225-33, 15,440-3.

E. J. MURPHY.

Is one of the most essential subjects in city and town schools. Should be compulsory, as nothing trains the eye so well, 15,335-6.

DEWEY.

Only teachers could be trained in the Schools of Art, 15,419. Should be taught in all schools, and begun with the infants. Would introduce the rules to give manipulative dexterity. Would allow a teacher without a certificate to teach if he could teach successfully, 15,457-63, 15,473. Would put drawing first of the subjects to develop intelligence, and for the purpose of securing accuracy, would advocate scale drawing, and making the plan and elevation of objects, much more than freehand, which gives freedom of hand but does not develop the intelligence, 15,514-24.

GAMBLE.

Should commence in third class and be compulsory in all schools. The teacher's certificate at present is of little good, no credit being given for ability to teach. In a school of sixty there should be an assistant qualified to teach drawing, while in the

APPENDIX B
IV

DRAWING—continued.

case of an unqualified teacher of a small school, he should get instruction by lectures and be allowed to present the third and fourth classes the first year, the third, fourth, and fifth the second year, and the third, fourth, fifth, and sixth in the third year, and if the results were satisfactory, he should be entitled to teach. The teaching in the schools of art and training colleges is unsatisfactory from the point of view of training the teachers to teach. There should be freehand drawing, which trains the hand and eye at first, and then drawing to scale in order to cultivate accuracy, but does not stifle plan and elevation drawing could be introduced, though when the second class in Birmingham understands it, the fifth in Ireland ought to be able to do so, 16595, 16604-16, 16649-67.

G. BATHMAN.

A most important subject, which should be made compulsory wherever a teacher possesses a certificate. All future teachers should be compelled to take out certificates. If drawing were compulsory it would be desirable, though in some cases it would be a hardship, to make a rule that before a person would get a certificate he must be able to teach all the subjects in the programme. Should begin with oblique lines in the kindergarten, but there should be no lines for the second class, as they seem, when discontinued, to have a bad effect, in the third class. Experts should be stationed at centres, who would give instruction during the week in the schools, where the teachers are not qualified and to the teachers on Saturdays. The teachers could also be trained in the Schools of Art in Saturday classes, and should be tested both by examination papers and as to their ability to teach. Would begin even in the first class, in which rulers might be used, with object drawing, and would introduce in the fifth class, drawing to scale. Would not allow a teacher without a certificate to teach. The ordinary Inspector would inspect the school to ascertain if the teacher has ability to teach, 15640-7, 16022-4, 16029-32, 16113-22.

W. B. JONES.

Is better taught than has been described by witnesses. Should begin with the infants, with a ruler, squares or rectangles on slates, the slates being in the second class replaced by paper. The third and fourth classes might reason as at present, with the addition of object drawing with straight lines. In the fifth and sixth classes, the freehand drawing, which is of considerable value, might be simplified, and the pupils taught more advanced object drawing. Advisable to add drawing to scale and plan and elevation drawing, of a simple nature, 16163-3, 16273-8.

Most Rev. Dr. O'DWYER.

Would prefer it, and science, to manual instruction. In male schools is the most universally useful subject, and every boy in every urban school ought to be taught it. Should be taught much better than at present. Freehand is most desirable, but—almost more important—there should be also geometrical, drawing and drawing to scale. Should also be compulsory in girls' schools for purpose of refining the children, and giving them the artistic taste. It might be useful for inspectors or peripatetic Inspectors of drawing to go about and give advice on the methods of teaching it, 16343, 16547, 16567, 16570, 16580-1, 16597-8, 16629-33a, 16661.

ARCHDEACON HAMILTON.

Of the many children who have passed through our schools cannot think of one to whom drawing would have been of use, 16773.

DRAWING—continued.

DESLANE.

Should be introduced for the purpose of giving the boys intellectual enjoyment and making them better workmen. Freehand has a good effect, but it would be better to have drawing relating to objects, 16842-59.

LEAHY.

Should be taught in all the elementary schools, and could be introduced without seriously interfering with the literary training. The managers would be glad to introduce it, and also elementary science, 17940, 17943-54.

LYNNES.

The teaching of, would be most valuable. The teachers would be willing to attend at centres in order to qualify, and the managers would encourage them, 17182-4, 17220-3.

COURTESAT CLARKE.

Should be taught in every school. Would have freehand and practical drawing, including geometrical drawing, drawing to scale, and plan and elevation, and would teach it in connection with measurement. The making of actual objects in cardboard would help the pupils to understand the drawing, 17426-32. Has not much faith in the teachers being trained at centres, 17453-8.

WELSH.

A most useful subject which should be forced on the country. Until all the teachers are trained time at teachers might be employed for their instruction at suitable centres. There would not be any general objection to the subject from teachers, managers or parents. There would be no hardship in making it compulsory in girls' schools, where it would be helpful in teaching cutting-out, and after a few years it might be made compulsory in all the schools. The small extent to which it is now taught is due to a great many teachers not having certificates, but, as in writing, models and copies might be used when the teacher is not qualified, 17533-7, 17568-603, 17616-8, 17663-7, 17680-2, 17702-3.

KELLY.

The teachers as a body are favorable to its introduction, 17781.

HAYMON.

Should be made compulsory. There are many teachers capable of teaching in who have not certificates, 17859-61.

CHYAN.

Is very popular with the pupils and should be taught universally. The teachers would be willing to learn and would attend courses for that purpose, and in their first year of teaching an itinerant teacher might give them lessons and advice. Drawing to scale would be very useful, perhaps more useful than freehand, 17965-6, 18011, 18072-3, 18103-9.

DOTY.

Would be in favour of the establishment of centres in which the teachers could get courses of lessons, but would prefer that the teachers should be brought to a centre for a three months' course. On teachers of over twenty-five years' service it should not be compulsory. It should begin with the young teachers in the training colleges. Would not allow a teacher without a certificate to teach it. Drawing to scale and practical geometry would be popular with the teachers and feasible in connection with measurement. If made

DRAWING—continued.

compulsory in large towns would gradually and naturally extend to the country districts in the course of time, 18256-62, 18291-3, 18312-8, 18359-65.

MacLENNAN.

Should be introduced into all schools, but great efficiency should not be expected for the first few years. If the work was fairly done, the pupils should get a pass, even though the teacher is not certificated. With the aid of models, as in writing, a sensible teacher might teach drawing. Drawing to scale is the only useful drawing, and after a little while the teachers would be able to learn how to teach it. They would, however, as a rule, object to attending at centres for the purpose of being taught, on account of the risk of failing, 18438, 18444-54, 18475-8.

SWANNEY.

A very important subject which should be optional in some schools but compulsory in others. Should be optional (on the part of the teacher) in first, second, fifth, and sixth classes, but obligatory in third, fourth, and fifth. Drawing to scale would be desirable as well as freehand, and the teachers could easily learn it, 18527-31, 18552-4, 18564-70.

MORAN.

Is very poorly taught in Belfast, because the teachers, in some schools, while the children are employed at drawing, are teaching extras. The children are left a good deal to themselves, and the india rubber is too much used. Is in favour of drawing from models, and of practical geometry. Would insist on its being taught in the training colleges, 18538-43, 18593-4, 18731, 18743-7, 18801-9.

BROWN.

Advocates the teaching of it for the purpose of training in observation and accuracy. Unless free-hand is done well the other drawing would not be very well done. Does not consider drawing with scale and compasses drawing at all. Would have practical geometry, 18591-4, 18515-24.

WARD.

Would have it taught generally throughout the country and made compulsory where there are sufficient teachers. Teachers with certificates should be required to teach it, while teachers under a certain age without certification might be required to go to the certificates. Would be in favour of having classes in centres for the older teachers. Would have drawing to scale and perhaps from easy models, and the use of the ruler in the higher classes. Plan and elevation could be kept for the continuation schools, 19064-5, 19095-101, 19130.

MONROE STREET.

Is an essential part of a good general education, 19205, 19381.

FOLDES.

Would not like to see the kind of drawing that is taught now, taught in all schools. Would like a modified programme with less freehand, but some use of the ruler and drawing to scale taught in all, 19450-1, 19487, 19514-6.

MAGILL.

Would not exclude it in a large town like Belfast, but would not think of having it generally taught. Would prefer to have time spent in teaching children to write well, 19628-8.

DRAWING—continued.

BURNS.

Is very useful, and should be made more or less compulsory. It would be impossible to teach an old teacher to draw, and perhaps difficult to teach a young one, and therefore dependence must be placed on men who have a taste for drawing, and this would grow by degrees, 19740-3.

DEWAR.

Strongly in favour of it, and would make it compulsory in all the schools, allowing old teachers to teach it as best they could, and paying them if they produced results. Would require certificates, however, from all young teachers and all going through the training colleges. Would give the course a practical direction and include model drawing. There should be drawing to scale in the senior classes, and plan and elevation might be introduced in sixth class. To make the instruction more intelligent, the making of objects would be useful if time could be found, and if the work would not interfere with the literary instruction. Drawing trains the hands and makes the children obedient and more accurate, 19853-7, 19870-3, 19880-6, 19915-26, 19943-68, 19992-20001.

DALTON.

Up to the end of the second class we cannot improve on the kindergarten system of drawing, which should be taught even though the full kindergarten course is not taught. At present the children pass from the kindergarten drawing to an entirely new system, the teachers knowing nothing of the kindergarten system, and having to begin *de novo*. The kindergarten drawing should be developed in courses suitable for second and third classes introducing, say, curved lines, and showing the children on the black-board how to combine them in a variety of ways. This would lay a foundation for designing and give the pupils a taste for it. In the third and fourth classes, in which the teaching at present is of very little value, would introduce mathematical instruments, at least the ruler and compass, still developing the kindergarten drawing, and in the higher classes would have drawing from actual simple objects, the teacher showing on the black-board how they should be regarded, or practical geometrical geometry with construction. It might be possible to have both geometrical and freehand drawing taught throughout the standards after a while. Would make the teaching obligatory on certificated teachers, and would make it universal as rapidly as possible. There are some extra subjects in which the children are classified according to their positions in those subjects, but does not know that the advantages of classifying them similarly in drawing would compensate for the consequent disorganisation of the work of the school. Some permanent special inspectors of drawing might be useful. The difficulty as to getting teachers could be got over by a proper system of training and by insisting on the teachers teaching drawing as a class subject, 20076-82, 20108-10, 20116-8, 20175-90, 20236.

FERGUSON.

Is best taught in the kindergarten classes, because it is entirely practical, but there is no connecting link between it and the drawing in the senior classes. In the latter the child is set to make a copy, but the teacher does not, as he should, use the chalk of all, or place the object before the pupil. The results programme does not actually require model drawing, and consequently it has been neglected. If a senior teacher, without a certificate, could teach the subject, would allow him to do so. Should be taught as part of a good general education, 20294-5, 20277-81, 20302-4, 20313, 20318-21.

APPENDIX B. DRAWING—continued.

BARBER.

Should be made compulsory. Is taught in all classes in Cusickfrages Model School, but the third class is the first for results fees, 20555, 20599-600.

BOSWELL.

Freehand drawing of an object, which is only the beginning of drawing, should be corrected by measurement. Should be compulsory in the schools, and the teachers who have not got them, should be told to get certificates. Teachers who don't quite come up to the standard might get provisional certificates. They could be trained in the Derry School of Art. In the Derry district out of 169 schools drawing is taught only in thirty-one, though there are certificated teachers in others. The managers would all be glad to see the subject taken up. If the course enabled the children to sketch roughly objects they have seen it would tend to make it more practical. Should be taught not merely for its own sake but to illustrate the other school subjects, 20626-8, 20641-2, 20722-3, 20760, 20801-2.

BARDNEY.

Is becoming very popular, and instruction in it is extending every day. Would like to see it universal. It is the best introduction to hand and eye training. Would accept the results of old teachers who have not certificates, 20854-60.

CARRIE.

Would as far as possible keep drawing from the object constantly before the child, 20989, 21004.

ROWAN.

Should be taught in all schools. Would allow uncertificated teachers to teach if their results showed that they were able to do so. Those who cannot draw might acquire the ability, at least to draw with rule and compass. Old teachers would not like to go to a course for instruction as it would be looked upon as a disgrace if they failed, but it would meet the difficulty if they were allowed to give evidence to an inspector of their capacity to teach, 21115-21, 21144-53.

PATRICKSON.

Is one of the most useful subjects, and should, as far as possible, doing no personal injustice, be made compulsory. In teaching it the blackboard is not used sufficiently, 21246-9.

MALCOLM.

In Lockerbie school, drawing is taught for three hours a week. Scale drawing, which was formerly not understood by the pupils, has now become practical in conjunction with manual instruction, and in Standard 6 solid geometry, plan and elevation, is now taken instead of plane geometry, 21568-9.

M'C. MURRAY.

In Scotney School, Edinburgh, drawing is taught to all the boys by the ordinary staff, for two hours a week. The girls take sewing while the boys are at drawing. Owing to not being able to classify the pupils according to their ability in drawing, none of the Scotch schools received "excellent" last year in drawing. Would postpone drawing to scale from Standard 4 to Standard 5, and remove solid geometry from the syllabus. Objects to the examination papers being sent to South Kensington. The inspector who sees the methods and results is competent to examine them, 21776-90. Explains how separate classification for drawing is rendered impossible

DRAWING—continued.

in the Scotch schools, 22252-4. Is opposed to teaching solid geometry as being too advanced for children, 22255-8. Would prefer inspection to examination as tending towards economy of time, and greater freedom of classification, 22336-41.

SCOTLAND.

At a recent conference with the teachers, two specialist drawing instructors volunteered the testimony that the hand-and-eye training was a distinct help to the drawing, 22549.

BLAIR.

Is Inspector of the "North Scotland" district under the Science and Art Department, 22705-6. Considers that for teachers a qualification in freehand, model and geometrical drawing, as distinguished from solid geometry and blackboard drawing, would be quite sufficient. Teachers of drawing while they are generally certificated teachers, as a rule, hold no special certificates in drawing. Many of those who obtained certificates in drawing are not competent to teach the subject. The certificate is only one of ability to draw. To improve the drawing instruction, the inspector must pay surprise visits to observe the teachers at work, and after the lesson, point out faults and give them instruction lessons. In Ireland instruction to teachers at centres must be supplemented by good training in the training colleges, where it should be compulsory. The peripatetic specialist should also visit the schools round his centre, observe the teaching and correct it. The regulation of the Science and Art Department by which the papers are partly marked by the inspector and partly sent on to South Kensington, should leave full control to the inspector to enable him to take local circumstances, and whether the school is improving or not, into account, 22711-24. The guarantee that the standard will not drop is the central system of marking. If the Department reserved to itself the right to call for samples of three or four schools in each inspector's district, it would be sufficient to secure this end, 22732-9. A certificate of drawing should not be issued on for teachers, but it would be necessary for all teachers to be able to draw on the blackboard, 22737-31. Of the 990 or 1,050 elementary schools in Scotland in connection with the Science and Art Department, most are simply taking drawing. Approximately the total grant earned from the Science and Art Department is £35,000 to £50,000. By a new regulation of the Science and Art Department, no day elementary school can be on their books except for drawing or manual instruction, 22740-7. The Scotch Education Department has not yet made drawing a compulsory subject of instruction, 22742-9. The inspector marks first, second, and third standards, and does not mark fourth, fifth, and sixth, but sends up all the exercises that are on paper, and this may include the first Standard in 30 days or so. At South Kensington they may or may not re-mark standards one, two, and three. If the inspectors in one whose marks are usually steady, they would accept his marking, 22754-64. Disapproves of the Science and Art Department's teacher's certificate in drawing being given without any examination as to capacity to teach, 22763-72. Would prefer that the certificate should be awarded to the teacher on the results of his teaching. In the training colleges a professor of method examines the capacity of the teacher to teach the other subjects, but does not pay any heed to their capacity to teach drawing, 22773-86.

OSWALD.

Is Principal of the Heriot Watt Technical College in Edinburgh. As a preparation for technical instruction, drawing is an essential part of elementary education. The tendency is to teach it as a subject of importance

DRAWING—continued.

simply for its own purposes, whereas its chief aim is as a tool for practical use and subsequent technical education, 22814-5. As a hand and eye exercise it is an essential part of primary education, 22822-6. Considers the Education Department inspector quite qualified to judge of the educational manner in which drawing is taught, 22827-30. Considers a case for training in drawing could be made out on its importance as a part of general education alone, without any reference to subsequent technical education, 22843-4.

CUTHBERTSON.

Under the Glasgow School Board, there are 75,000 scholars and 79 schools. All the boys from the infants upwards are taught drawing, and there are but nine schools where the girls are not taught drawing. They begin with geometrical, and also learn freehand and model drawing. It is taught by three specialist teachers in four schools, in all the other schools by the ordinary teachers. The total grant earned last year for drawing was £3,716 16s., of which about £1,000 was given to the teachers, 22898-3002.

G. W. ALEXANDER.

The School Board does not insist on its teachers having certificates in drawing, 23168.

KEPE.

The manual instruction drawing in his school is taught by the ordinary class teachers, who teach the pupils how to make plan and elevation drawings of the models, sometimes, however, the work is shared of the drawing, and vice versa. Is afraid there is, in practice, too much copying of plans and elevations from the teacher's drawing on the blackboard. Illustrates this from his own experience. Looks upon drawing as a necessarily compulsory subject, although it is not compulsory under the Scotch Code, 23612-3.

ROBERT CALDER.

Drawing is taught to all the boys in the Dundee Schools, not to the girls, 23631-2.

TREKAR.

Drawing and needlework are the only subjects of practical instruction in the training college curriculum. Recommends subjects of practical instruction, the introduction of which he would advocate. Their inclusion would necessitate the present course of training being increased to three years. For men, practical geometry and applied drawing should be introduced, 23983-5. Teachers already trained and teaching should be collected to centres to receive instruction from experts in drawing and its application to handicraft. Subsequently the experts could act as assistant inspectors in supervising its introduction into the schools, 23982-7. In Switzerland summer vacation courses, lasting six weeks, are held in various centres. The teachers in Ireland are not yet sufficiently advanced to profit by such short courses, in subsequent time such courses might be adequate to maintain a high standard. In the Training College at Louisa St., the Programme of Drawing gives eleven hours instruction per week, 23988. The examination set to the Queen's Scholars tests only their power to draw, so that the main object of the training college is neglected, 24027-34.

DOUGHERTY.

Is Professor of Method in Marlborough-street Training College. Speaking generally, the capacity of the Queen's Scholars to teach is tested under the present system. Admits that no test of power to teach is exacted in examining for a certificate to

DRAWING—continued.

teach drawing, 24286-88. Drawing should be introduced into all National schools, and the fee should cover the expense of materials. If it were arranged to make the subject compulsory by a certain date, and if a few specialists were sent round to the different centres, nearly every teacher in Ireland would qualify for a certificate in a short time. Teachers not holding a certificate might, for the present, be allowed to teach the subject, 24342-4. It is now compulsory on all students, male and female, in training colleges. When model lessons are given before the examining hand inspectors at the July examinations, it might happen that the subject selected by the student would be drawing. To this extent a test of power to teach may arise, 24401-10.

FINDRATRICK.

Drawing is seldom, if ever, chosen as the subject of the entrance lesson, and is not well taught in the training colleges. Considers it badly taught also in the schools, 24715-9.

FYTCH.

In the schools it should be taught in classes 1 and 2, class 3 being too late to commence the subject. Mechanical drawing should be taught from the beginning. The system of examination should be modified on lines suggested. Every teacher is qualified to teach drawing, whether certificated or not, up to class 3 or class 4, 24741-5, 24931-6, but not in class 5 or class 6. Would not make it compulsory in the higher classes at present, 24783-801.

TERRAN.

Is Organising Secretary of the Irish Church Diocesan Board of Education in Dublin. Gives summary of replies of managers of schools in connection to queries—"Is drawing taught in your male school? Is drawing taught in your female school? Is drawing taught in your mixed schools?" 25015-45. Also to the query—"Should drawing be compulsory?" 25065, 25153-62. Considers freehand should be compulsory. Some drawing could be taught through manual work, 25081-6. Would not require a certificate to qualify a teacher to teach drawing, 25092, 25185-6.

MAHEFFY.

Special courses should be given to enable teachers to teach drawing, 25194, which should be compulsory, 25199. Suggests various centres where the teachers now in charge of schools, might receive courses of training, 25133-9, 25246-7.

KINGSMILL MOORE.

Drawing should be compulsory in the schools, 25407-10. In the training colleges the students are simply asked to copy either a model or freehand specimen; there is never any question as to the method of teaching drawing. The blackboard is never used in reference to drawing, 25447-8. Regards as an evil the absence of an official test of power to teach drawing, 25484-80. If the subject were to be made compulsory in the schools at once, as suggested, it should be treated sympathetically and in no exacting spirit. All intelligent teachers should be able to teach the elementary stages. A very simple test-case on the subject would be a good help to start with, and very simple requirements should be clearly laid down, with definite instructions to inspectors as to what they should look for—having regard rather to the methods of teaching than to the teaching of advanced stages of the subject, 25528-38.

BARRISTE.

Should be compulsory for both boys and girls, and should begin early in the school course, 26147-52, 26164, 26167-9.

EVENING CLASSES AND SCHOOLS.

APPENDIX B
IV

Most Rev. Dr. O'DWYER.

Has seen evening schools tried very often, but they have always failed. Some of the teachers say that the payment is insufficient. But apart from the rules of the Board they would be desirable, as would classes on Saturday, out of school hours, to teach such subjects as cookery, laundry, and typewriting. They might, in fact, be semi-technical schools, which would prepare pupils for occupations in after life, 16605-10.

DEGLANE.

Country boys after going to work should receive instruction in evening schools, a great many of which should be established if the grants were satisfactory. Should be used for giving practical instruction such as type-writing, and possibly advanced arithmetic, 16833-6, 16845-51.

COURTESAY CLARKE.

Practical instruction must reach the youth of the country in connection with the National schools. Much could not be done in evening classes in the country, but something could be done in towns, 17441-9, 17466-8.

DOYLE.

Pupils desirous of a further course after leaving school should have the opportunity of attending evening classes in the present schools. In many parts of the country the majority of the children are within a mile or a mile and a half of school, so that there would be no real difficulty in the way of the older children attending. Evening schools at present are very few, because there is practically no encouragement given to them, the teacher being paid only £1 a month salary, but they would be especially suitable for the teaching of book-keeping, shorthand, and other subjects of a practical character, 18281-3 18359-53.

MACLEOD.

Would not go in for evening schools in country places owing to the distance the pupils must go. In certain districts the senior boys might attend science classes, 18465-9.

BROWN.

It would be desirable to have a commercial programme for boys, and, in fact, all special subjects which are not part of a good general education, taught in continuation schools, 18553-66, 19015-7.

PHELPS.

The managers are in favour of them, but they have been a failure. The grown-up boys and girls won't spend their evenings at them, but probably if manual instruction were introduced it would make them attractive. The present programme might be modified, 20334-7.

BEATTY.

If the programme were modified and made of a practical character more boys would be attracted to evening schools. An adoption of the English evening school code would be useful. Laundry work and cookery might be introduced, and science could be taught in them, 20414-23.

SPENCE.

Literary evening classes would be of service if they could be carried on. The teachers have not been encouraged by a large enough payment, and the

National Board's conditions are prohibitive, but there are other elements, including the difficulty of managing youths of from 17 to 21, which interfere with them, 20520-4, 20527-8.

MCMANAM.

Has tried evening schools, but, though attendance at first was promising, it soon fell off, owing to there being nothing of an interesting nature in the course, and merely the drudgery of reading, writing, and arithmetic. Something of a practical nature—perhaps a little manual training—would make the school attractive. It would be better not to have the ordinary day teachers if other competent teachers could be had. Think the reason the schools did not succeed was that the salary allowed to the teachers being too small, they had to charge too large a fee—6d a week—to the pupils. If the payments made or the results fees were sufficient there would be no necessity to charge a fee, 21045-7, 21057-63, 21081-5.

MALCOLM.

The evening classes in Lockbie School are in connection with the Education Department. These in arithmetic, shorthand, composition, and drawing are attended by about forty men, the cookery, laundry-work, and dressmaking classes are attended by about thirty women, 21557-61.

TATE.

Describes the classes of pupils, subjects, and course of instruction, and nature of inspection in Science evening school, Edinburgh, 22937-50.

COURTNEY.

The Glasgow School Board's evening schools are attended by 14,000 scholars. Of the School Board children 10 to 15 per cent. subsequently attend the evening schools. Manual instruction was commenced this winter, while physical science is largely taught, 23062-8. The elementary science in the day schools is a great advantage for subsequent science work in evening schools, 23069-73.

LOW.

[For origin, organisation, and success of evening classes in manual instruction under the Dundee School Board, see his evidence under MANUAL INSTRUCTION.]

The School Board also gives instruction to girls in evening classes, not, however with equal success. Considers they should get a domestic training—laundry work and cookery, 23718-26.

ELLIST.

[For evening classes for manual instruction under the Dundee School Board, see his evidence under MANUAL INSTRUCTION.]

MACDONALD.

[For evening classes for manual instruction under the Dundee School Board, see his evidence under MANUAL INSTRUCTION.]

Besides these classes the School Board of Dundee has evening continuation schools with about 2,000 pupils, boys and girls, in regular attendance. Some years ago, when first opened, it was found necessary to have classes for Standards 3 and 4; now they are able to commence with Standards 4 and 5. Finds, however, that boys and girls leaving the day schools in Standard 5 and failing to come to the continuation schools for two or three years, are not fit for Standard 5 when they join. There is no manual workshop

EVENING CLASSES AND SCHOOLS—continued.

attached to these schools, but for the girls there is laundry-work, sewing and cookery. For three sessions, 1888-4-5, a special teacher of cookery was employed. Gives percentage of pupils attending the continuation schools, and total attending the day schools. Two of the schools are specially set aside for education above Standard 6, where they take up the programme of the Science and Art Department. The regulations do not permit pupils to attend both day and evening schools, 18785-806. Has suggested that it should be made compulsory on children to attend school until they pass Standard 6, unless they give a pledge to attend the evening classes. This would save a great deal of educational waste. The Board has twenty-two day schools and fifteen evening schools, in addition to the three manual classes. The evening schools are not mixed, eight being exclusively boys, and seven girls, schools. Considers shorthand, book-keeping, and laundry work subjects specially suited to evening schools, 23637-69. The assistant teachers of the day schools are the principal teachers of the night schools, under a separate salary. The schools are open for three nights per week only, for which a head assistant receives a salary of 29s., an assistant 14s., the salary being independent of the number under instruction, 23647-80.

ROBERT CALDER.

[For evening classes in manual instruction, see his evidence under MANUAL INSTRUCTION.]

Besides the Board's evening classes for manual instruction, there are evening schools in connection with voluntary schools for girls, principally church organizations, where they teach the girls cookery, laundry-work, needlework and dressmaking. The Board tried

EVENING CLASSES AND SCHOOLS—continued.

cookery and laundry classes as an inducement to the girls to attend its evening schools in literary subjects. They come to the former, but will not be bound to attend the latter. There are four schools conducted by churches, under inspection, with at least 500 girls in attendance. Then there is the Young Men's Christian Association, under inspection, having 400 in attendance, and the Young Women's Christian Association, not under inspection, but teaching laundry work and cookery. Book-keeping and shorthand are taught to a large extent in the Board's evening schools, 23965-29.

RYAN.

Gives his various experiences in starting and carrying on evening schools. At present has a successful night school which is accommodated in the Dorset-street National Day Schools. Has 316 boys on the roll. There is a strict rule that no boy who can attend a day school is received at the night school. The payment paid by the National Board to the teacher is £1 a month. Unless a man is almost starving he will not work for the salary. In addition there are the results fees. A boy must make fifty attendances to entitle the teacher to gain results fees on him. There is no provision for expenses of lighting, heating, cleaning, etc. Pay, an extra salary to the teacher and supplies the equipment himself, 26185-266. Evening schools for cookery and laundry would be largely attended, 26220. Would have advanced classes for boys studying for Civil Service examinations in evening schools. There are some other night schools in Dublin. The hardest circumstances in starting night schools is the absence of funds, 26221-34.

GEOGRAPHY AND GRAMMAR.

SKAFFERSON.

In classes 3 and 3 would make grammar and geography optional, dealing with them in readers. In classes 5 and 6 they should be retained, 14582. In classes 3 and 4 the readers would be adequate. When beginning geography instruction, would eliminate excessive quotation of facts and figures, 14582.

BURNS.

There is room for a large modification of the compulsory subjects of the programme. Intricate questions in length of rivers, heights of mountains, parsing of difficult sentences from the poets, should be eliminated. The programme which admits of these questions, not the inspector who asks them, is at fault, 15063-72.

DENNEY.

In geography the instruction should be local, and the points of the compass should be taught. Heights of mountains and lengths of rivers should be eliminated. The system, and not the inspector, is at fault in the existing method of examination. Geographical readers, and the use of the blackboard by the teacher for map drawing, should be introduced. Would introduce physical geography as an extra, 15448-59.

In grammar, composition should be substituted for class parsing. A text-book is superfluous except to get out the rules of syntax. Simple analysis should be retained, 15443-7. The aim of the subject should be to make the pupil understand the structure of sentences, and write a letter. As a means to teaching composition the rules of syntax and knowledge of the parts of speech must be preserved, 15448-50.

DUBLINER.

In grammar the course is too extended. It is difficult for children of eight or nine to remember parts of speech, in class 4 the conjugation of irregular verbs, and in class 5, second stage, the parsing, are difficult, while in class 6 the examination is very difficult. More should not be required than to write a letter correctly, grammatically and intelligently, 14815-6.

BEATTY.

Illustrates the defects of the results fees system by pointing out how it precludes intelligent instruction in geography. Compares the method of teaching geography in German schools to that now practised in Ireland. The remedy would be to give latitude to the teacher to draw up his own syllabus, and to allow him to employ his own method of instruction. Would have neither grammar nor geography compulsory, 20337-63, 20389-90.

BROWNE.

Would approve of geographical readers with maps, 20736-7.

M'KENNA.

Reads a memorandum setting out that the manner in which grammar is taught is one of the greatest blots on the school system, and proposing a number of reforms as to increase of the fee paid, proper provision for the subject in the school time-table, the importance of teaching syntax before parsing, the necessity of giving five minutes daily to phrase grammar and five minutes daily to a lesson in correct pronunciation, 91695-20.

APPENDIX B. GEOGRAPHY AND GRAMMAR—continued.

M.C. MURRAY.

In grammar the use of the text-book is confined in Scotland to the higher standards. In geography, while a text-book is used, nine-tenths of the teaching is done by a map. Neither in grammar nor geography does the inspector examine from a text-book. Teachers parsing only as secondary to analysis, 22310-21.

SCOTLAND.

In the Scotch Code it is provided that there must be two sets of readers in all standards in every school, one of which must be a geographical or an historical reader. Disapproves of a reader combining both. Independently of the reader, geography is almost universally taught as a class subject, 22648-55. In the Leith schools, out of 169, 168 take geography. Considers teaching grammar from a text-book a waste of educational time and effort, 22661-6.

OSWINE.

The teaching of arithmetic should be made concrete by questions as to distances between towns, times of travelling, etc. Answering questions as to the length of rivers and heights of mountains is merely an effort of memory, 22617-9.

MACDONALD.

Considers grammar a necessary subject of instruction in all standards. Would put it before the various forms of hand and eye training, both in time and in importance. Would not, however, beaverse to the introduction of these hand and eye exercises, if time could be found, and their educational time were demonstrated, 22648-56.

TROTTER.

The Irish Church Diocesan Board of Education in Dublin issued a list of queries to managers of schools

GEOGRAPHY AND GRAMMAR—continued.

in connection. Given summary of replies received as to which of the present compulsory subjects should be made optional, and as to whether less time should be devoted to any subject each week. The answers nearly all referred to grammar and geography, 25057-60.

KINGSMILL MOORE.

Describes the system followed in Kildare-place Training College to give the students a practical knowledge of measurements, heights, and breadths and lengths, in order to induce practical teaching of geography. In the majority of cases the instruction is forgotten. Draws attention to the fact that Mr. Robinson's geography—published in 1880, and on the Board's list—lays it down that proper instruction begins by dealing with the locality. The female students in Kildare-place must each draw a map of the surroundings, but this system receives no recognition under the routine free system. The Commissioners might publish improved maps, as those available are indifferent. Points to the importance of teaching grammar on the inductive method, which is the system followed in Kildare-place, 25451-4. Would not put a text-book into the hands of a child, 25460-1. For the schools geography should begin with the topography of the locality, beginning with the schoolroom. The system followed with respect to these two subjects in Kildare-place should receive adequate recognition from the Inspectorate in examining the schools, 25462-75.

STRONG.

Would retain geography as a compulsory subject, reforming the system of instruction on the German system. Geographical readers, with the aid of maps, would be a useful innovation, 25665-70.

HAND AND EYE TRAINING

W. B. JOYCE.

Should be introduced if possible, but should be optional and gradual, in order to give teachers an opportunity of learning it. Many of the present teachers would qualify in it if they had an opportunity, 16183-5, 16298-9.

BURN.

Is very efficiently given by drawing, but if he found there were other exercises which still further developed it without interfering with the ordinary school-work, would be in favour of their introduction, 19763, 19718-8.

MALCOLM.

In the Leith schools, kindergarten is taught in the infant department. Would advocate its extension by hand and eye exercises in the succeeding standards but for want of time. Considers its extension would improve the teaching, but if time were taken from other subjects the inspectors might report a falling off in these subjects, 21582-4, 21563-71.

MACRAE.

In the Edinburgh Board Schools, kindergarten is taught. Thinks that hand and eye exercises should be introduced to bridge over the gap between it and manual instruction, 21848-51, 21860-5. Kindergarten and manual instruction are hardly out of the experimental stage in Edinburgh. They have improved the general efficiency in all subjects. Would introduce hand and eye exercises in the intermediate standards if time permitted, 21901-12.

M.C. MURRAY.

Enumerates various kindergarten occupations taught in Scotch schools, which are very popular with both pupils and parents, while increased interest in literary subjects arises from change of occupations, 22142-6. Is convinced that an extension of these occupations in the higher standards cannot fail to produce the like results. Illustrates this by reference to increased efficiency consequent on kindergarten training in Standard 1 in his schools, 22344-79.

SCOTLAND.

In Inspector of the Leith schools. In 1835 hand and eye training was taken up in Leith in every standard throughout the thirteen School Board schools. In 1889 kindergarten had been introduced in the infant department, and part of the inducement to extend the work was the great benefit that teachers, School Board, and inspectors had experienced from its introduction. The advanced scheme is confined to boys the highest all the standards, girls having needlework, domestic economy, and cooking, developed on the same lines. Given as a specimen the scheme carried out at Goughallwood schools in Standards 1, 2, 3, and 4. Teachers and members of the Board agree with him that the value of the work is proving itself year by year, 22518-24. The School Board provides all materials gratis, 28538. At a recent teachers' conference two specialist drawing instructors volunteered the testimony that the hand and eye training was a distinct help to the drawing, 32543. The evidence of the teachers is unanimous in favour of hand and eye training. Has observed an excellent effect on the literary curriculum. No School Board in Scotland

HAND AND EYE TRAINING—continued.

has carried out the subject so systematically as the Leith School Board, 23550-60. As illustrating the effective nature of the instruction, instances the case of a practical engineer, newly elected to the School Board, as an economist. In a letter written after inspection of the schools, he says that, as compared with 1872, the state of education is simply perfect. The subject is popular with pupils, parents, teachers, and school authorities. Wirework has been introduced successfully in one school, 23577-83. Under the results fees system, hand and eye work would be impossible. It has had a good effect on the general intelligence of children, and resulted in more intelligent methods of teaching, 23669-77. From the superior general intelligence of the infants' department in Scotland, over the higher grades, due to instruction in kindergarten methods, an improvement in the general intelligence may be expected on the adoption of advanced kindergarten, 23673-84. Its introduction was the result of a conference between the teachers, the School Board, and himself, 23691. Is Vice-President of the Blyth Association of Scotland, which is largely composed of teachers. It conducts classes for teachers in cardboard-work and clay-modelling, 23692-6, but does not issue a certificate to teach, 23699-700.

GILVER.

Considers simple hand and eye exercises superior to carpentry as forms of manual training in primary schools. Regards them as an essential part of primary education, 23820-5. Wirework, cardboard-work, manual instruction, and generally the Blyth occupations are of importance as educational agents, apart from all consideration of their relation to technical education, 23844-58.

MACDONALD.

Under the Dundee School Board, kindergarten is taught in the infant departments, but does not graduate into hand and eye work in the lower standards. Would not favour its extension, 23818-20. If evidence proved that cardboard-work and other forms of hand and eye work quickened children's intelligence, while he would not exclude grammar for their inclusion, would not oppose their introduction if time could be found, 23840-56.

TARRANT.

Would strongly approve of MANUAL work in all phases of school life, not necessarily confining it to woodwork, but making the form appropriate to each standard, 23943-72.

THOMAS.

The existing Training College programme makes no provision for hand and eye training. Of the thirteen subjects for women but two—drawing and needlework—are adapted for such training. Of the sixteen subjects for men, but one—drawing—is suitable. Would terminate the literary and mathematical course, and award the certificate at an earlier period, and devote the residuum, in the case of women, to a number of subjects of practical instruction as constructed. For this purpose the course of training should be extended to three years instead of two as at present. In the case of men the third session should be given to practical geometry and drawing, and their application to handicraft, &c., 23981-5.

DOHERTY.

Is Principal of the Male Department of the Marlborough-street Training College. At present all the female students receive instruction in kindergarten. Would like to see a continuous course of advanced kindergarten introduced as a compulsory

HAND AND EYE TRAINING—continued.

course alike in male and female Training Colleges. It should also be introduced into the National Schools, or, for the present, object lessons in elementary science might form an alternative course. Enumerates the advanced kindergarten or hand and eye exercises which should be compulsory in the schools; manual instruction on the contrary should be restricted to the senior classes and should be optional. In the case of the former the expense would be trifling, while in the latter it would be considerable. Ample time could be found to introduce the hand and eye work in both the schools and the Training Colleges, 24173-83. Elementary geometrical drawing should be introduced for all Queen's scholars and for the ordinary schools. Would be prepared to hear objections made by ill-informed people to the various hand and eye exercises, 24213-21. Distinguishes between hand and eye and manual instruction. While the former should be obligatory the latter cannot be introduced into country schools, but should be encouraged in city schools, 24232-34. Believes the time tables could be so re-constructed as to find one and a half hours a week for hand and eye training without sacrificing any of the literary curriculum, 24244-51. A good fee should be paid for the work to provide for cutting up materials, 24243. The instruction should extend from class one to four, both inclusive. Where there is but one teacher it could be given in school-hours, the senior classes being put at some subject not requiring close supervision, 24411-3.

PETER.

Advocates extension of kindergarten occupations into classes one to three of the ordinary schools, 24733-40. Wirework is useful, as involving applied drawing, but would require an enthusiastic teacher. To qualify the teachers, courses in hand and eye work should be given at centres and in the Training Colleges. The present accommodation would suffice for wireworking, for paper-modelling, &c., the desks being covered with black cardboard, 24760-70. Explains the difference between the organized infant school and the ordinary school; would have the kindergarten instruction given in the infant school extended to the ordinary school. To enable masters to teach the work they should receive a course of instruction in the Training Colleges, 24803-23. In third and fourth classes it should develop into paper work, cardboard work, wirework, elementary design, 24824-31. Considers that objections to these various occupations would vanish with a correct appreciation of their educational use. Regards paper cutting as the simplest means of teaching applied drawing, 24876-80. Saw a small rural school in Barrow-in-Furness district, England, where all the hand and eye occupations were carried on successfully. Considers they might be introduced into rural schools in Ireland. Where the teachers were qualified, would make cardboard work a compulsory subject, 24884-90.

TRISTRAM.

Would advocate introduction of all hand and eye exercises in schools. In some small schools they could not proceed beyond cardboard work, 23063-4, 23078-80.

KINGMILL MOORE.

Would be in favour of hand and eye exercises extending from kindergarten to manual instruction, 23419-22.

PUNTER.

All the Training Colleges should have courses of hand and eye training, 23684.

See also KINDERGARTEN.

HANDICRAFT.

SKERTINGTON.

Describes successful teaching of, in King National School, and the children's great interest in it. The subject is misnamed in Ireland. Condemns the system of classification in it according to literary proficiency, 14440-51, 14502-5.

JOYCE.

Present programme is unsuitable, and in many ways it is not educational, 16177-8.

MORAN.

Has had experience of examining in it in Marlborough-street, Oldcastle, and Athboy. The instruction did not extend beyond carpentry, and was based on the Board's present programme. Approves of this programme, but it should be revised and modified considerably. Saw it carried on in Belfast Model School, where the plant is supplied by the Board, but, judging by the result, the work did not seem to be much. The complicated nature of the programme, which is utilitarian rather than educational, may have led to the opposition to manual instruction. Tools specially made for children should be used, 18843-52, 18722-3, 18810-4.

PEDLOW.

Has not been very popular. The instruction is not, but should be, given in connection with drawing, 20371-6.

TERHAN.

In the Training College, would advocate the introduction of a third session or year for instruction in handicraft and applied drawing, amongst other subjects of practical instruction, 23384-5. Teachers at present trained should attend at centres where skilled instructors should instruct them in applied drawing, and subsequently in handicraft. These skilled instructors could also act as assistant inspectors in superintending the introduction of these subjects into the schools, 23386-7. In Switzerland, summer

vacation courses are held in such centres as Bienne, Geneva, Lausanne, Bern. The Communal authorities bear the expense of the course, while the teacher pays for his living during the six weeks' course. Irish teachers at present would require longer training. In Lausanne Training College the Professor of Handicraft gives four hours instruction per week for wood-work, and eight hours for modelling, 23388.

DOHERTY.

Does not approve of the old handicraft programme, which had no reference to drawing. Witness drew up the new programme now in use, in which full provision is made for drawing, 24235-43.

TRISTRAM.

Is Organising Secretary of the Irish Church Diocesan Board of Education in Dublin. Gives summary of replies to queries issued to managers of schools in connection, being—“Is handicraft taught in your school? Have you premises and appliances suitable?” 25053-4. Gives summary of replies to query—“If a substantial portion of the expense were borne by the State, should manual instruction be introduced?” 25061. Has not observed any effort on the part of teachers trained in Kildare-place Training College—where handicraft is taught—to introduce the subject into their schools. Attributes this to the absence of educational principles in the programme 25175-84.

KINGSWILL MOORE.

The programme has been largely taken up in Kildare-place Training College. Considers it uneducational, as it is not founded on drawing. Got a full set of manual-work models from England for his Training College, but found it impossible to introduce the subject, owing to want of time, 25442-6. The whole object of the existing programme seems to be industrial rather than educational, and has no relation whatever to Stoyd principles, 25491-500. It is mere carpentry, 25497-2.

HOUSEWIFERY.

MISS WRIGHT.

The Edinburgh School Board is waiting to see how the subject is worked out in London, before attempting to introduce it. The only provision at present existing in Edinburgh is the housewife's diploma for young ladies, given by the Edinburgh School of Domestic Economy, 23763, 23801, 23806-6.

MISS PATTERSON.

The Glasgow Cookery Union has established within the last two years, in two centres, courses of six months, where cookery, laundry work, and dress-making are taught to girls who have completed their elementary school education, 23354. These classes

are held in the ordinary schoolrooms, which precludes instruction in the management of the house; they are day classes, really advanced day schools, 23356-7, 23365-72. Illustrates the meaning of housewifery by reference to the London system. In these experimental centres the girls receive instruction in literary subjects, revising their previous school work, the practical domestic subjects serving as an inducement to them to attend. Housewifery instruction cannot be given in the ordinary classroom, but necessitates a special building, 23358-59. Would favour the omission of the theoretic instruction at present given in domestic economy, to be replaced by a course in housewifery taken at a more advanced age, 23364-8.

INSPECTION.

GRAMER.

Finds his scheme of manual instruction hampered by having to set the pupils to produce certain points over and over in order to acquire dexterity, knowing these exercises will be required of them by the inspector. Would prefer simple inspection to annual examination, 23969-72.

MC. MURRAY.

In drawing, objects to the examination papers being sent to South Kensington. Considers the inspector

who sees the methods and results quite competent to examine, 23189-90. The substitution of simple inspection for annual examination would enable teachers to advance pupils according to their ability, thus giving greater freedom of classification and economy of time, 23336-41.

MISS BRANDER.

The abolition of individual examination, which has been introduced in infant or kindergarten departments, gives freedom of classification, and enables

INSTRUCTION—continued.

children to make progress according to their natural capacity. It is one of the causes of more intelligent and better instruction, 22405-12.

SCHOOLING.

The modifications which the system of inspection underwent in England since 1870, were also followed in Scotland. At present the examination in the elementary standards is often by sample. Individual examination still exists where the children are presented for a labour certificate in Standard 3, or more usually in Standard 5, which is the labour exemption standard. The results fees system was a waste of time to examiners and teachers; a temptation to bad teaching and useless for the object of a proper examination. Its uses have been outgrown. The present system in use—that of examination of classes as a whole—has not yet been superseded by simple inspection, 22697-604, 22619-25. Explains the manner in which class examination conduces to intelligent reading. Intelligent instruction in reading a thing impossible under the results fees system, 22638-40. Considers this the direct consequence of the abolition of individual marking, 22667-8. The abolition of the results fees system was desirable, in that it made possible the introduction of other subjects, such as hand and eye training and science, the introduction of which has resulted in a general improvement in school work and also in improved methods of teaching. Holds the opinion that the fact that kindergarten instruction was common all over Scotland before any attempt was made to introduce hand and eye work, is to be attributed to the fact that there was no individual examination of infants long before individual examination was dispensed with in the higher classes. For a long time the Infant departments in general intelligence and work were easily ahead of all other classes in the school, 22669-81.

INSTRUCTION—continued.

TALK.

In evening schools under the Code there are no fixed annual examinations. During the course of the year the inspector pays two or three visits without notice. His inspection and oral examination go on without disarranging the time table, and towards the end of the session he is at liberty to give a written examination in any subject he thinks fit. He sees this examination on the teachers' tables of work, which he has before him. The method of examination has conduces greatly to the efficiency of the evening schools. Such a system, if introduced into the day schools, would permit of more progress and prevent an enormous waste of educational power, 22668-81.

MISS PATERSON.

The grants for cookery and laundry work are paid on the actual attendance without examination or inspection other than such as satisfies the inspector that adequate provision and equipment are provided. In sewing, the grant is paid on the average attendance, 22380-86. A feature of the Scotch system of inspection is that considerable responsibility is delegated to the School Board, and the grants are paid largely on its certificate, 22404-6.

CALDER.

Is Inspector of Schools under the Education Department. In Scotland in the specific subjects the examination is individual. In all other branches the class system of inspection prevails, mere inspection not being recognised, 22949-54.

INTERMEDIATE EDUCATION.

MOST REV. DR. O'DWYER.

Gives statistics showing the very small number of Limerick boys who take science in the Intermediate examinations. It is a great loss to the country that the Christian Schools, by the necessity for obtaining grants for their support, have been forced into the Intermediate examinations, and thus prevented doing the work of practical teaching. The promising boys are sent in, and when a poor man's son is thrown aside after passing the junior grade he is utterly

ruined, having neither got a primary nor an intermediate education. Last year, out of 6,000 boys in all the grades, only 236 passed in the senior. The system is a badly conceived and most pernicious one—it is a system of cream—and is doing more harm to the intellect of Ireland than any other thing in it. If practical science were taken up more generally in the primary schools it would help its introduction into the secondary schools, 14548, 14558-61, 14662-4, 14670-1.

KINDERGARTEN.

BROTHER THOMAS.

Where well practised, is most successful and useful, and it ought to be extended through all the classes, 14274-5, 14314.

SKEFFINGTON.

At present practised chiefly in the convent schools, and only in the infant and first classes, but all teachers should know and apply its principles. Only practised where there is a special room for infants, but should be carried on beyond the infants, 14407-21, 14489-91, 14831-2, 14867-8. Could be well taught in all schools—even where there is only one room, and would not, where there is a second teacher, interfere with the work of the classes, 14527-30. The teachers could be taught the subject in the training colleges and convent schools, 14533.

POWELL.

Attaches great importance to it as a means of training in accuracy and quickness, but it is almost

impossible to carry out the programme under the National Board owing to the regulations. The fee, 2s., given is very small and should be increased, 15118-20. Should be carried on until it develops into drawing and handicraft, 15132, 15142.

T. J. ALEXANDER.

It is desirable that it should be carried on into the higher classes. Its introduction into schools has been prevented by the existing regulations, 15247.

SMITH.

Is very useful, but owing to the expense and the necessity for a skilled teacher, is rarely taught in 3rd class, 15278-80.

DESSERT.

The drawing portion trains the hand and eye, produces accuracy and observation, and tends to make the children intelligent. Relieves the same of the other subjects of kindergarten instruction and would

APPENDIX E. KINDERGARTEN—continued.

be in favour of its extension to the higher classes, until it is superseded by manual training or experimental science, 15479-83. The Cork teachers are in favour of it; 15567-70.

GAMBLE.

Might be continued in the higher classes as far as drawing is concerned. The teachers should be given facilities for getting a certificate, and the restriction as to special rooms, furniture, and teachers, should be abolished. The experience of Cork teachers is that a child who has passed through a kindergarten school must necessarily be quicker than one who has not, 15613-24. 15649-52, 15730-1.

G. BAYNEAN.

Grants should be given for kindergarten desks in both vested and non-vested schools. Would advocate the extension of, through the higher classes and in this, object lessons in elementary science subjects, and geography might be included. Would allow it to be taught in every school in which there is an assistant, even though there is not an organized infants' department. A false impression is created by the term kindergarten, that it is a separate subject, and it should be understood that it is the natural form of instruction for infants—the teaching of reading and writing, combined with a considerable amount of play, and also exercises in hand and eye training. Children trained in kindergarten are brighter than those who are not so trained, 15963, 15982-8, 15992-101, 16104-4, 16108, 16125-6.

JOYCE.

Should be introduced into every school where there are two teachers, one of whom is qualified to teach it. The rule as to an organized infants' department prevents it being taught. A higher fee should be paid to cover the expense of materials, 16173-4, 16218-20.

BRADSHAW.

Is very good from a disciplinary point of view, but from as regards all infant schools that the children are unduly pushed on, 16453-4.

DEMLANE.

Strongly in favour of it, as it would increase the children's powers of observation, 16896-8.

SWEENEY.

Should where possible be made compulsory in every school up to third class. One of its chief benefits is that the work is done voluntarily and almost unconsciously by the pupils themselves, 18523-6, 18525, 18588-90.

MORAN.

Is taught extensively in Belfast with success which varies very much, and the managers usually supply the plant. Sometimes, but very seldom, it extends to third class, but he would advocate its extension to both third and fourth classes, and even through the entire school course. It is of the greatest value in educating the eye and hand, and in developing accuracy, neatness, and intelligence, 18630-8, 18784-42.

WARD.

Should be encouraged and developed and extended through the higher classes. Understands it to be intended as a training in accuracy and intelligence. Drawing and object lessons might be a continuation of it, 19049, 19083, 19102-14, 19120, 19131.

KINDERGARTEN—continued.

MONAGHAN BYRNE.

Is delighted with it, and thinks it a great mistake it should be restricted to the infant school, 19383-4.

MARILL.

Does not think any great advantage is derived from it except in so far as it leads children to come to school, and makes school work not hateful to them, 19559-71.

BUNNY.

Is a great advantage and attraction. Believes that the form of kindergarten composed of calligraphic, figures, tracing and drill would amply meet the advanced kindergarten, 19709-2.

DEWAN.

The drawing part of it is good, and the other parts pretty good to keep children employed. Might have it taught in second class, but not in third, as the time would be better employed at something else, 19867-71.

DAUNTON.

An excellent subject, than which there is none better calculated to make a beginning in a practical system of education, but as carried out at present it is only a beginning—it is not developed. The money for the appliances is found by the locality, the manager, or the teacher, so a rule the manager and teacher help one another and organize a concert or something of the kind for the purpose. The parents appreciate it and it attracts the children. The ordinary desks, if of suitable height and provided with kindergarten slabs, would do. Would insist on the teacher having a certificate of competency because the kindergarten, more than any other teacher requires the qualifications of intelligence and sympathy with the children. Would extend kindergarten by object lessons, such as plants, rocks, minerals and manufactures in the third and fourth classes. The folding of papers from blackboard drawings, as an extension, would be educational. Physical exercises should be continued in the upper classes. Kindergarten training brightens the children and puts their minds into a receptive condition. Could be carried out where there is no organized infants' department, where there is no class room, and even where there is only a single teacher with a monitor. The drawing could be severed from the general programme, and introduced in ordinary schools, 20022-69, 20061, 20129-31, 20173-4, 20193.

FERLOW.

Is an excellent subject, which should be carried on to a greater extent, in some cases, for another year in the infant schools. The drill and drawing might be extended to the senior classes. Cardboard work would be a suitable extension of it, 20265-8, 20315-7.

BARSCON.

Its effects are felt up to the senior classes, more especially in 2nd fifth, when the children are introduced to geometry, in which any teacher can distinguish the kindergarten from the ordinary pupil by his quickness, 20554, 20596.

DUNN.

Is of great service to the pupils and should be continued from the infants to the other classes. Finds that the understanding is not cultivated equally with the senses in it, but that is a matter which might be remedied in the course of teaching, 20622-3, 20699-709.

KINDERGARTEN—continued.

EADIE.

There should be no break after it, and any training given in manual work should be a development and extension of it. Desires its extension, not merely as an occupation, but for its educational value. A pupil trained by it is more likely to get on quickly in other branches of the school course than one who has not been so trained. Every school that has an infant class should have kindergarten, even though there is no class-room, and though there is only one teacher and a monitor. 20627-30, 20649-57, 20660-3.

McMENAMIS.

Is a subject of very special importance to infants and should be carried in a modified form into all the classes. It is the experience of all in charge of it that it is very beneficial to children and exercises every faculty they possess. It quickens hand and eye and develops and quickens intelligence, so that children trained in it have been found to excel others in the lesson books, to be better in arithmetic, and when asked to write descriptive letters, to have a much wider range of observation. The kindergarten drawing is a great help to freehand drawing and should be carried on until freehand and object drawing, geometrical drawing and model drawing are brought in. In small country schools the assistant or monitor, for whom the average should be reduced, should be trained in the system, or if that were not convenient, a workmaster in a county district should take charge of three or four schools within a convenient radius. Peripatetic specialists might train both the workmasters and the ordinary teachers, and as soon as the latter were qualified they should take up the work. It would be a hardship to insist on their having certificates, but he would insist on the subject being taught in the training colleges. 21097-32, 21049-51, 21070-6.

PATTERSON.

Thinks it would be very useful if carried out properly, and that, if started at all, it should be carried right through the classes. Has heard a complaint of its not teaching drawing properly. 21230, 21264-7, 21307.

MACRAE.

Does not agree that children coming from kindergarten departments are less fitted for the work of the schools than those without any previous kindergarten training. 21800-4.

McC. MURRAY.

In the last two years, found fully one-third of Standard 1 so far advanced with the ordinary subjects that he was able to put them into Standard 3 at once. Attributes this to the thorough training in arithmetic, &c., resulting from the concrete teaching of kindergarten work. 22277-9.

MISS BRANDER.

Gives particulars of the ages of pupils at, and time of instruction spent in, various kinds of kindergarten work in the infant department of her school in Edinburgh. Since the introduction of the kindergarten employments, there has been a steady rise in the efficiency of the school. 22365-77. Brushwork cultivates knowledge of measurement of space, skill with the hand, and freedom of treatment. 22375-80. Progress in clay-modelling is rendered easy by the previous training. 22381-2. Provision should be made to continue the drawing instruction which girls receive in the kindergarten classes, to the higher standards. 22383-6. Kindergarten instruction cultivates manual dexterity, accuracy of expression, clearness of ideas,

KINDERGARTEN—continued.

stimulates individual ability, accords with the love of movement which is the natural physical condition of children, and prevents monotony of school life. 22387-93. Advocate training of teachers. 22394-6. Recalls the time when the entire instruction consisted of reading, writing, and arithmetic. Proficiency in those days was not nearly as great as it is at present, which may however in some part be also attributed to the abolition of individual examination. 22402-12. The present freedom of classification resulting from the abolition of individual examination also enables children to make progress according to their natural capacity.

SINGHALL.

The opinion that children would get on better in the upper standards if they had never been brought into contact with the kindergarten system, could not be grounded on experience of properly systematised kindergarten instruction. 22527-33. For a long time the infant department in Scotland, where kindergarten instruction was universal, surpassed in general intelligence the higher grades of the schools. 22573-81.

MISS STEVENSON.

Distinguishes between the Froebel system of instruction and the various kindergarten occupations in use in the schools. A child entering the higher school having been exclusively educated on Froebel's system, would undoubtedly be far behind one brought up in an ordinary infant school in the ordinary literary subjects of instruction, but not behind the child taken from the street without any previous instruction. 22699-901, 22932-4.

MISS THOMSON.

Is mistress of the infant department in Gorbals' Public School, Glasgow. The first stages of the kindergarten instruction in the Glasgow schools are based on Froebel's gifts. Out of the sixty-eight Glasgow schools, sixty-seven teach kindergarten. The occupations comprise basketwork, cardboard making, paper-cutting, mosaic work, and making picture-frames. The instruction is given by the ordinary staff, who have, as a rule, qualified in the training colleges. The Board supplies the materials. Is in favour of such instruction and would have it continued in the higher standards. Would not advocate Froebel's system in its integrity. 23412-34.

MAUGHAM.

Under the Dundee School Board, kindergarten is taught universally in infant departments, but is not continued in any of the standards above Standard 1. Would not favour its extension. 23413-20. If evidence proved that advanced forms of kindergarten quickened children's intelligence, would not oppose their introduction. 23440-56.

ROBERT CALDER.

Kindergarten is a great awakener of intelligence, and enables the pupils to get on quicker. 23921-3.

TERNAK.

Is compulsory on female Queen's scholars in Marlborough Street Training College. Besides the examination in theory, they give lessons in the infant school attached. 23976-8. Regrets the subject is got up from a text-book for the examination. The course should deal rather with teaching the teachers how to give the instruction. 24023-4. Does not reason why male students in training should not get a course of instruction in kindergarten methods. 24137-40.

APPENDIX E. **KINDERGARTEN—continued.****FEYER.**

Advocates extension of kindergarten occupations, now confined to organized infant schools, to Classes 1 to 3 of the ordinary schools, 24739-42. For the work, the ordinary desks provided will suffice, 24770-1. Explains difference between organized infant schools and ordinary schools, and how, under the regulations in certain instances, children must enter the ordinary schools direct, thus losing the benefits of kindergarten instruction. The majority of ordinary schools being conducted by a master, provision should be made to give male Queen's Scholars a course in kindergarten, 24803-3. A single room for the school should be no deterrent to some of the "occupations." In Classes 3 and 4 in ordinary schools it should develop into the various hand and eye subjects mentioned, 24824-31. Agrees as to the distinction between Froebel's system of kindergarten and the modification in use in English, Scotch, and Irish schools, 24816-30.

TEHRMAN.

Is Organising Secretary of the Diocesan Board of Education of the Irish Church in Dublin. Gives

KINDERGARTEN—continued.

summary of replies of the Church managers of the diocese to queries issued by the Board, among which—
"Is kindergarten instruction given in your infant school? Is kindergarten instruction given in any other school, not an infant school?" 25035-44.

MAHAFY.

To facilitate its general introduction the teachers should be afforded opportunities of training. Would not increase the fee, but would allow an assistant for a lesser number of pupils than the existing regulations of the Board permit, 25190-5. Would make it compulsory in all infant schools, as it brightens their school-life, increases the attendance, and sharpens intelligence. Male teachers would be improved by a course in kindergarten, 25200-3. Where variety is given by the various "occupations" the school hours are not too long for the infants, 25226-8. To secure effective teaching of the subject assistant teachers should be largely substituted for master-teachers who are appointed in excess of what is desirable, merely because the Treasury wish to avoid appointing assistants, 25240-5. Kindergarten would benefit boys and girls equally, 25293-6.

LAUNDRY WORK.**SCODAL.**

Would be inclined to postpone instruction in laundry work and cookery to a more advanced age than that of children in elementary schools. Under the Lethbridge School Board the subject was taken up only for one year and has been abandoned within the range of the ordinary standards. It is taught in the secondary department of the Craghall-road School, 25542-3.

MISS WRIGHT.

Laundry work is taught in Edinburgh and Glasgow. Considers it a suitable subject for elementary schools, 25728-30. The number of children taken in a class should be small, 25807-8.

MISS STEVENSON.

For laundry work the grant is 2s. for twenty hours' instruction. Does not consider it a suitable subject for elementary schools for reasons stated. It should be given in evening schools to girls of fourteen or fifteen and upwards. The subject is popular with the pupils and parents, 25883-44.

MISS PATTERSON.

The Glasgow School Board has seventeen laundry centres attended by the girls from twenty-eight schools. The cookery teachers also give the laundry instruction. As to the materials, the Board's rule is that the girls should bring their own clothes. A course consists of a weekly lesson of two hours for ten weeks. Were it not for objections from the ordinary teachers, would prefer the Barrow-in-Furness system, viz., an entire school-week once a year devoted to laundry work. The grant is 2s. per scholar. In 1896 the number of pieces was 190 out of 236 under instruction, i.e., the number of those who completed the necessary

attendance. In consequence of the Board's arrangements, by which this course succeeds the two years' cookery, the number of those who receive instruction is small. The cost of fitting up a centre is £48, 25809-20, 25830-2, 25892-3. The teachers' distances in cookery and in laundry work are quite separate, 25852-41. The Barrow-in-Furness system would present exceptional difficulties if adopted in Scotland, owing to the custom of having mixed classes, boys and girls being taught together, 25873-8, 25407-11. The grant for laundry work is paid on the actual attendance, without examination or inspection, the inspector, as a rule, merely satisfying himself that the provision and equipment is adequate, 25880-86. The inspection is, to a large degree, delegated to the School Board, and on its certificate the grants are paid, 25404-6.

LEE.

The Dundee School Board started evening classes in laundry work and cookery, but not with a large degree of success, 25718-21. Would not advocate laundry work instruction in day schools, but rather in evening schools, 25868-9.

MACDONALD.

Considers the evening school is the proper place for laundry work instruction, not the day school, 25868-9.

ROBERT CALDER.

In Dundee there are a number of evening classes for laundry work and other subjects of practical instruction, under Church organizations. The School Board tried these classes as a bait to induce girls to attend for literary instruction. The girls, while eager to attend the practical classes, would not bind themselves to attend other classes, 25905-18.

MANAGERS.**MRS. EST. DR. O'DWYER.**

It would be important if managers were encouraged to group themselves into associations by districts,

and that these associations were recognised by the National Board, so as, with its consent, to have the power of modifying the course of instruction in their districts, 16882-90, 16883-9, 16677-8.

MANAGERS—continued.

QUIN.

An Association of Managers, to consult together, and advise the Board is possible, but does not know that it is very practical, 19189-8.

MORSEMAN BYRNE.

Associations of managers throughout the country would be attended with very good results, 19319-24.

MAGILL.

Thinks it a great pity that associations of managers do not exist, 19664.

MANAGERS—continued.

CAROIN.

An association, if properly conducted, would be a good thing, and it is quite possible to form it, 20292-31001.

McMENAMIN.

Is in favour of an association, of meetings of managers and of managers and teachers, who could frame a system suitable to locality, and submit it for the approval of the Board, 21066-9.

MANUAL INSTRUCTION.

BROTHER THOMAS.

Does not see how manual work in wood could be carried on without a modification of the present condition of schools and without provision being made for the necessary expense, 14277, 14324. Has attempted unsuccessfully to introduce it into the De La Salle college, 14326-8, but could re-arrange programme so as to include it, 14340. Where woodwork is carried out the boys take a great interest in it, and so would the teachers if it were part of the school programme, 14361. Does not interfere with literary training, 14363.

SKEFFINGTON.

Would have a good effect on literary instruction, 14464, 14503, and the inspectors would soon learn enough to enable them to inspect it, 14435. Teachers differ greatly in their attitude towards it, 14466. Explains modification of school curriculum he would suggest for the introduction of new subjects, 14547-63.

ENOS.

Woodwork should be introduced into schools amongst boys of twelve years and over, 14571-4. Describes the work done in Swiss schools and the interest taken in it, 14573, 14608-6, this interest being due to the profits made, the facility for getting material, and the benefit of the work as a preparation for trades, 14618-20. It would be desirable to introduce such a system in largely populated districts here, 14607. Has pupils who do manual work in the school-rooms after hours, 14582. Manual work is successfully carried on in the Newtown school, conducted by the Society of Friends. Expensive apparatus has been provided, and artisans teach woodwork, turning, and carving, 14583-5. The work is popular with the pupils, who number between 35 and 40, resident, 14608-11. The school is a secondary one, 14614, and each boy is allowed to work according to his taste, 14612-4. Complete articles should not be made, but the work should be limited as in Birmingham, 14615-7.

LANDERS.

Describes his unsuccessful attempt for about six months to carry on manual work or handicraft, 14283-36, 14657-9. The work was done in play-hour or after school, but only one out of ten children cared for it, 14428. The ordinary school programme is too much to allow the introduction of manual instruction, and he could not possibly make room for it on account of the conditions of life in the locality, 14431, 14681-3. Advocates manual instruction generally, but not for rural schools. The children could be at more useful work, 14635, 14680, 14685, and they would not prefer manual work, owing to the hard work they have to do at home, 14689-93. Of the 105 teachers engaged in manual work in Marlborough-street Training College in 1883 only about four, owing to want of taste, obtained any useful

knowledge of it, 14636-40. The destination of the pupils is mainly agricultural, and it would be better for them to confine themselves to making agricultural improvements, and to pay skilled men to do other work, such as mending doors or windows, 14642-8. Had only one year's experience of manual training in the Training College, but two or three years' training would not have made the slightest difference to half the students who were warned with him, owing to want of interest in the subject, 14649-54. It is not unattainable for town schools, 14676. If the pupils attended regularly, could introduce manual work without excluding any of the extras he taught, 14681.

GOSARTY.

Its objects are to train the hand and eye, to give mental and moral habits, such as habits of close observation and attention, of reflection, comparison and judgment, of perseverance, love of work and self-reliance, and to cultivate taste, precision, accuracy, and the constructive faculty, 14696, 14735, 14771. Describes the course and system followed in the school, 14696-8, 14730-4, 14782-98, 14802-3, which he considers educational, and distinguishes from technical instruction or handicraft, 14699. Describes the conditions of admission to the class in Christian Brothers' School, Limerick: the class is connected with South Kensington, 14700-3, 14804. The pupils' ages are from ten up, 14702-4, though one boy is only nine, and there is no objection to a boy of that age, if he is sufficiently strong, 14735; and they use ordinary tools of a small size, while the bench is lower for the smaller boys, 14705, 14736-9. In the school are about 200 pupils, of whom 34 are in the class, 14706-8, while the younger children are anxious to pass into it, 14708. The instruction is optional, but should be compulsory, both on pupils and teachers, like reading or writing, 14710-2, 14728-9, 14812-3. The boys make drawings first, and then do the work at the bench, the proportion of time being about half an hour to drawing and an hour and a half to bench work, 14714-5, 14740-1. Never observed that the work untaught the hand for drawing, 14717. Could not have connection with South Kensington in manual work, if drawing were not compulsory. The fact that drawing is taught to all makes it more easy for the class to learn, but it would not be impossible, even though it was not taught at all, that a class should learn the little drawing required, 14735-6. It makes the children intelligent and improves the attendance, 14718, 14742-4. To make room for it a little time is taken from arithmetic, dictation, grammar, and geography, 14719-21, but no injurious effect arises from this, 14815. The parents approve and the boys are fond of the work, 14725, 14811. The children are drawn from the town and the country around, but never observed the slightest difficulty arising from the country children having to do form work, 14723-6. The prevailing idea, which is shared by the teachers, is that manual instruction is either technical or mere handicraft, but if it were fully shown that it is as educational as reading or writing, opinion

APPENDIX B. MANUAL INSTRUCTION—continued.

would change, 14738. An artisan is with the boys all the time, but the teachers are also present, so that the work may be strictly educational. The school teachers could learn sufficient in two months to make an artisan unnecessary, 14734-5, 14755-60, 14805-7. Lessons are given in the different kinds of timber and in the use of tools, 14747-9. The grant from the Science and Art Department does not cover the expense and should be larger, 14761-70, 14781-4. The work has been going on for four years and not a single accident has happened, 14786-7. The building was erected by Mr. Walsh, an advocate of the system, and cost, with some of the furniture, £275. The tools and wood are provided partly from Mr. Walsh's liberality, and partly from a subscription of £10, given by the Duke of Devonshire, 14778-84, 14808-9. The pupils are not obliged to pay any fee, but some pay a small amount, 14810. Cannot say that the training has affected the future of the children in a marked way—it certainly has not had the effect of making them all carpenters. Of the fifty who were trained during four years, two became carpenters, about six, tradesmen, ten are pursuing a higher course, and the remainder are at various occupations—some the Church, some the army, some farmers, and some in shops, 14792-801.

RICHARD BARTER.

Is urgently needed for schools, as far want of it the farmers are behind-hand in the race altogether, 14857-9.

BURKE.

Is a practical way of giving effect to the advantages of drawing. Is of great importance, and should be introduced into all primary schools. There are, however, many difficulties in the way of its introduction, including the expense of tools and raw material, the training of the teachers, and the want of accommodation. Should be begun on a small scale in the centres of population, the teachers having first been taught drawing, should then be gradually trained in it, and it should be introduced in the Training Colleges. The nature of the work not being understood, there are prejudices against it which would be overcome if the teachers saw the work done in centres, and were trained; then it might be made compulsory. Will not be well done if the teacher is not interested in it, and he will not be interested until he is satisfied that he will suffer nothing by its introduction and practice, and until he is well prepared to carry it on, 15031-4, 15035, 15063-3, 15074-7, 15081, 15086-7. Deferring from technical education, manual instruction is a purely educational process, in which regard is had, not to the work done, but to the effect upon the boy's mind. Has a wonderful effect in developing moral qualities, cultivating and refining the mind, and in inducing habits of neatness and accuracy, while the physical exercise is a substitute in some way for physical drill. Is an assistance in the choice of a business for after-life, and gives a respect and love for labour. Is best taught by the teachers of the ordinary subjects, who will look to its educational advantages, while a mechanic will not, 15080, 15064, 15059-61, 15064-5. Has been started in Limerick, and in St. Vincent's Orphanage, Glasnevin, and among the almost absolute necessity of it, contemplates erecting a Gerald Griffin Memorial School for it in Cork, 15055-6. If the Government enabled the Commissioners to start the schools, the managers and the public would take an interest in them, and sustain the work by additional assistance, 15037-8, 15081-3.

POWELL.

It would be desirable that it should be given to all boys passing through the primary schools, 15106-9.

MANUAL INSTRUCTION—continued.

The teachers' objections to the system of a central room for a number of schools are superficial, and would pass away after a little time, 15146-8.

T. J. ALEXANDER.

Light is thrown on the difficulties in the way by the experience of the alternative scheme, 15175. The cost of materials will amount to a practical prohibition, unless the State gives financial help. There should be a grant for apparatus and material, and an annual grant for the teaching, to place it on a level with other subjects. But a modest programme not requiring too much, and made compulsory—wishes it were possible to-morrow—after a due interval, should succeed, provided the teachers were adequately trained, and the literary programme was not interfered with unduly. Is opposed to outside teachers on account of absence of discipline. The teachers should be trained by experts at centres in weekly classes. If the literary subjects are omitted to any serious extent, it will arouse hostility. Does not believe in the strong mental value of woodwork, and is more in favour of elementary science, and raising the pupils to take part in experiments and in making apparatus, 15183-92. The possibility of extending the subject would not be properly tested by beginning with a few schools, 15183-92, 15216-22, 15256-7.

E. J. MURRAY.

Might be introduced into schools in large centres, with capable teachers somewhat enthusiastic on the subject. The teachers have to be educated as to what it really is, 15351-4. Saturday, which is given up to cookery in the girls' school, would be available for manual instruction in the boys' school, but Saturday being usually a market day, the children are generally kept at home, 15367-75. In favour of it by the extension of the more difficult kindergarten into the higher school, with the more advanced drawing as a basis for it, 15388-8.

DEWESEY.

The difficulties in the way of its introduction are—the training of the teachers, who must be expert or the subject would be a failure; the erection of buildings which must be separate from the school-room; the provision of tools; and the cost of keeping it going. If these difficulties were met, if the literary programme were curtailed to give time for it, and if they were paid for it, a large majority of the teachers would be in favour of the subject. The teachers in the training colleges should be instructed in it there, while the others could attend a course of lectures at district centres. Does not believe in itinerant teachers except for training the ordinary teachers. Draws the distinction between *slloyd* and technical education, that the former is educational (its object being to train the hand and eye to secure accuracy and develop intelligence), the latter utilitarian. To meet the expense there must be a considerable subvention from the State. A school of 100 pupils would have perhaps 20 *slloyd* pupils, and the cost for tools, as there must be a complete set for each boy in the class, would be about £100. A class should not consist of more than fourteen or fifteen. Manual training in the schools would do away with a lot of the agricultural labourer's unhandiness, 15413-8, 15439-42, 15464-8, 15484-502, 15529-44, 15571-3, 15578-8. Where there is only one teacher in a school it must be taught by a special teacher, or after school hours. The children would not attend on Saturday, 15583-4.

GAMBLE.

Children of ten or twelve, at which ages the majority leave school, are too young to use the ordinary tools, but, as in Sweden, they might use the knife. The

MANUAL INSTRUCTION—continued.

teachers are opposed to its introduction under existing circumstances, as they are not masters of the subject, there is not accommodation for it, and as the teaching of the essential subjects, such as reading, writing, arithmetic, and spelling, is the least that could be considered sufficient. Grammar, geography, and arithmetic, in the higher classes, might be modified, but the time gained, which would not be more than two or two hours and a-half a week, should be given not to manual instruction, but to drawing, which is its basis. If the circumstances changed, however, the opinions of the teachers would change. Does not see how time could be gained for manual instruction, though if that difficulty could be overcome it would be desirable to have it, 15589-603, 15668-77, 15717-23, 15726-9.

G. BATHMAN.

Thinks it extremely likely the children would like a graduated system of woodwork, and that the teachers would enter heartily into the scheme if they were not required to attend classes in Dublin. Refuses, however, on the training colleges and the teachers of the future. The teachers might be trained in centres on Saturdays by peripatetic instructors. Teachers qualified to teach and inspectors qualified to examine must be provided. In Limerick, at Athone School, wood-carving as an art is carried on in a building separate from the school, but no other manual instruction, 15974-82, 16109-12, 16129-35.

W. B. JONES.

Sees no place for it in the ordinary curriculum, but would be willing to see it tried. It might be tried, optionally, on Saturdays and the teachers are qualified. If the teachers found it equally attractive and equally paying, compared with the extra subjects, he would take it up, and Saturday then might be left for the instruction of the teachers by peripatetic teachers. Would give reality to drawing and make it more intelligible, 16175-8, 16194-8, 16221-3, 16278-82.

BRADSHAW.

The teachers look on proposed changes introducing woodwork, with apprehension on account of the experience of the results system, against which they were the only protesters, and on account of all teachers whose positions on account of it might become insecure. If woodwork were optional, suitable appliances and a separate room provided, and separate payment made, the teachers would not offer any objection, but would qualify for giving instruction if they thought it for the good of their pupils. Rural teachers considered practical cottage gardening, men, masonry, and drawing, suitable practical instruction in boys' schools, and plan sewing, knitting, darning, the use of the sewing machine, and cookery, suitable practical instruction in girls' schools. The heaviest opposition to woodwork might be expected from the parents, who would understand it to mean training in carpentry. Does not think they would object so much to cardboard work and paper-folding. It would be desirable that children should take pleasure in constructing things, but does not think parents would ultimately learn that there is an educational value in woodwork, 16420-6, 16436, 16443-52, 16467-9, 16482-85.

MRS. REV. DR. O'DWYER.

In an urban school, practical and manual training should have regard to the probable careers of the boys, urban parents and mechanical occupations, in the country, it should be mainly agricultural. Has great doubts of the advisability of the general introduction of woodwork into the country schools, though it would be very useful and desirable, but

MANUAL INSTRUCTION—continued.

should like to see an experiment in centres in the larger towns, to which the senior pupils could go on Saturdays. In the towns it would be adopted for its educational effect in training hand and eye, in the country it should be allowed more or less for utilitarian purposes, for if not immediately useful, it would come to nothing. In the towns, however, would prefer drawing and elementary science. There should be different systems of it for different places; it should be optional with the teacher, and taught by the ordinary teacher—and not by an expert. If the teachers are made masters of the subject in the training colleges, they will devise means of working it in the schools, and making it popular. Would be favourable to a proposal for its introduction, which should, however, be gradual. Woodwork does not correspond in a boy's life to needlework in a girl's. The construction of simple objects in cardboard or wood would illustrate the meaning of drawing, and be useful, 16531-2, 16545-5, 16551-2, 16568-76, 16584-41, 16645-50, 16661.

LORD MONTAGUE.

In country schools practical instruction should rather have a definite bearing on agriculture than be specially directed to the training of the hand by manual training or Sloyd. In the towns, Sloyd would be very useful. The country children use their hands more than town children do, but not accurately. Would approve of any form of instruction—such as drawing, especially mechanical drawing—that tends to make the children more accurate. The practical application of drawing by woodwork and cardboard-work would be an advantage, but should not be compulsory, 16690, 16701, 16724-5, 16731-7, 16752.

ARCHDEACON HAMILTON.

Could, with other practical subjects, be better, and more usefully learned in special places after school hours, 16754-60. To make it useful a great deal of time must be devoted to it, but in the ordinary school, this would interfere with the literary programme, for which the children are sent to school. In a month's apprenticeship to a trade, they would learn more about accuracy than in a year at school. Wishes there was something as generally necessary for boys as sewing for girls, which would make a break in the day for them, 16775-83. Does not see how it could be introduced into an ordinary school, but there might be reasons for its introduction into a large school with two or three rooms, and two or three masters, 16787.

DEGLANK.

In large towns and cities there should be such training to make the boys handy and intelligent, but in the country 85 per cent. of the boys have their hands employed in agricultural work. Should be given in evening schools to prevent the idleness which prevails in the towns, 16812-16860-2.

LALLY.

For its introduction it would be necessary to get efficient teachers. The ordinary teachers, who are not now preferred, might be trained in the training colleges and in central classes. In places like Galway the children should attend at centres while the trained teachers could go five or six miles outside the town as peripatetics to small centres. The plan might be worked well with the aid of a rule issued under the Technical Education Act, and of a subsidy by the Commissioners of National Education. The parents in Galway have seen the value of training in laundry work and cookery, and would be willing that manual training also should be introduced, 16884-905, 16942-3, 17044-7, 17080, 17088-87.

ARTICLE II. MANUAL INSTRUCTION—continued.

LORNEY.

Time for it could be found by shortening the other subjects, so as to gain half an hour, and by devoting to it the half hour of play time. The manual work would be play, and the children would enjoy it. It would be better, however, not to interfere with play time, but, without doing so, it would be hard to find time for manual work unless the school time was extended, which might be done. The material should be supplied by the Keskineq through the National Board. The form of instruction should be useful to the children in their daily avocations, as, for instance, net mending and fish-curing in seaside districts. Net mending is at present taught after school hours, and has been a great success. Central schools would not suit in Commanars, the distances are too great, 17109-14, 17126, 17133-5, 17149-63, 17195-7, 17248.

PERRY.

Everybody should be able to use simple tools, and every boy should be taught drawing, and to apply his drawings to some concrete object, such as a piece of wood. The school programme should, but does not, give a good groundwork for a subsequent course of technical education. For rural schools with only one teacher there should be peripatetic teachers, but in large schools with several teachers the ordinary teachers might teach manual work. This, however, is the great difficulty, the ordinary teachers having too much to do already. The teachers might be trained in the training colleges, and those who are specially good sent round the schools as peripatetics. There is no force in the objection that the introduction of extra teachers would lower the teacher in the eyes of his pupils. Centres might be formed for the pupils of different schools to go to, but the difficulty is the waste of the pupils' time in going from one place to another. Would add so, but not interfere with the existing course, 17250-2, 17282-314, 17323-6, 17335-43.

COURTENAY CLARKE.

With the expenditure of a fair sum of money it would be easy to arrange in towns; the difficulty would be to deal with the country districts on account of the expense. There should be a separate building or room for the work, though cardboard and wire work could be carried on in the same room. Would prefer the school teacher to give the instruction, an ordinary artisan would not know how to maintain discipline or to give instruction. Has not much faith in training teachers in centres. The coming teacher should be looked to, and a beginning made with the pupil teachers in model schools. In the training colleges the teachers are under pressure for classification and could not give the time to it that a pupil teacher could. Includes in manual instruction needlework, cookery and woodwork, and would teach the subject appropriate to a neighbourhood, as, for instance, net mending in a seaside school. The managers would be favourable to its introduction, and if, which is necessary, more teachers were given, there would be plenty of time. The parents would be favourable if the children's progress in other directions were not interfered with, 17365-91, 17401-3, 17458-15, 17421-5, 17438-52, 17468-71, 174749, 17517.

WELSH.

Should be introduced compulsorily in large centres where agriculture is not taught, and in such places it might keep the children at school to a later age. If successful it might then be spread all over the country. There would be some objection to it by the teachers, but no general objection from managers and parents. It increases the general powers of the pupil, but is not as necessary in Ireland as in countries with greater

MANUAL INSTRUCTION—continued.

industries. Time might be gained for it by decreasing generally the time for literary subjects, with the exception of grammar and geography. One teacher in the district teaches handicraft, but, owing to the course not being a well-arranged one, with very meagre results. Describes industries started in Commanars. The results of the teaching of net mending started by the Comasted District Board are good; the children, whose literary progress is not affected by it, are eager to learn, and the parents are most anxious for it. It is taught by a specialist, and generally outside school hours—between 3 and 4 o'clock, 17538-67, 17604-7, 17616-29, 17680-7.

KELLY.

Obtained a certificate in handicraft when it was first introduced, and has been instructed to teach carpentry by the Comasted District Board. Built a workshop, 11 feet by 13 feet, of wood and corrugated iron, with concrete floor, for £15. Obtained additional grants of £5 and £10, and built an addition, so that the workshop is now 36 feet by 13 feet. There are five benches which cost 5s to 7s each, but which might be made by a carpenter for 7s. or 8s., and bought made for about £1 each. Has £10 or £12 worth of tools, each bench having about 16s. worth, consisting of two planes, a chisel or two, a square and a ruler. Is in favour of the introduction of something resembling Swedish Slag-d, on account of its combining so much that is useful with the educational, and it might be made compulsory after a time. After school hours would be the best time for it. Cardboard and wire work would not meet the wishes of either teachers or parents. The difficulties are the need of a separate room and the need of suitable teachers. Tradesmen do not teach so well as teachers. It is not teachers might teach both teachers and pupils. Has classes from 3 to 4 on three days, and from 6 to 8 for extra pupils on the three other days of the week, the children showing readiness under great difficulties to come to the latter class. Disapproves of the handicraft programme as not sufficiently educational, but teaches it for Commanars, as well as the carpentry, for the Comasted District Board. Instructs the pupils in the use of the tools, which they must sharpen, and gets them to do little sketches of what they make, but does not teach drawing. The principal wood used is deal, but also uses yellow, red, and white pine. The pupils, whose ages are from eleven upwards, are drawn from the third and higher classes. As a body the teachers are not favourable to manual training. 17712-819.

CRAYN.

Would be in favour of it if it was an advantage to the pupils. It is desirable that boys should be trained to be dexterous, careful, neat and accurate, and therefore some practical work with this object would be useful. Time might be gained for it if the teachers were trained. Manual training should not be the teaching of a trade, but to make boys handy and observant, 17926, 17947, 17987-9, 17997-18006, 18008, 18084, 18101, 18118-20, 18164.

DOYLE.

Would extend the school hours by at least three weekly, and make attendance compulsory, in order to introduce the subject. Would prefer that two hours should be given to it on Saturdays, but pupils are not inclined to attend on Saturdays. Classes might be held after school hours. Believes that teachers would attend evening classes to learn. Might be tried in populous centres or by grouping four or five small towns together, but should not be extended to all the schools of the country. Training pupils as artisans

MANUAL INSTRUCTION—continued.

would be very unpopular, but understands that that is not the object. Would be generally in favour of the subject if time were found for it, if the teachers were trained, as the existing teachers may be in the training colleges, and if it were made remunerative, 18391-4, 18374-5, 18296-7, 18384-72, 18417-26.

MACLEODS.

Believes it is useful in large towns, but that there is no use in introducing any manual training except in agriculture in rural localities, 18453, 18497-501.

SWENNEY.

In favour of its being introduced and made compulsory. Would commence it in fourth class where kindergarten leaves off, and carry it on in connection with drawing. If the materials were provided by the school authority there would not be much difficulty in getting the work done, 18532, 18543-8, 18565-7, 18587.

MONAN.

Would make it compulsory in the training colleges and practising schools, and afterwards in the schools taught by the trained teachers, withholding their salaries until the classes have been started. Where teachers are not trained it could be given by itinerant teachers, or by the village carpenters (paying them the results fees). The teachers afterwards would acquire the knowledge themselves. Its introduction would be very desirable in all the large towns, but would be very difficult in rural districts. Would not confine it to handicraft or carpentry, but to a form of instruction which would train the hand and eye. This would be of special importance, and would make it more acceptable to the teachers. The instruction would follow kindergarten, and like it serve to develop accuracy, neatness, and intelligence, and to relieve the work of the school. There would be ample time for it in the present school course, and Saturdays could be utilised. Does not think there would be any falling off in the literary work, 18619-6, 18644-8, 18708-15, 18739-42, 18748-9, 18815-8.

BARRETT.

There is no room in the present programme for it, and does not think it would be desirable in the schools. It would be desirable in a proper place (to which the children might go from school), and with proper teachers. Children who desired the instruction would attend continuation classes for it. Believes there is a necessity for training the body, but fails to see how it can be trained by introducing the saw and hammer into schools. Manual training is necessary for those going into trades, but it would require schools to be built and proper teachers. It would be practical training for the child under direction to draw the plan and elevation of an object and to execute it afterwards. Has read some of the evidence given in England, but not any of that given in Liverpool. Has not a good idea of what is meant by manual instruction, and has had no experience of it. Would include, however, in the school programme anything which would lead to a good general education, 18631-3, 18668-2, 18663-6, 18676-82, 18687-90, 18696-37, 18967-76.

WARD.

Objects to its introduction completely all over the country until it is seen whether or not it would be an advantage, but would not object to its being tried in selected schools. The present programme could not be modified so as to afford considerable time for it, and it ought not to be introduced except in evening continuation classes. Never heard it asserted that needlework makes girls more intelligent, and

MANUAL INSTRUCTION—continued.

does not consider that handicraft tends so much as is stated to make boys more intelligent. Has never seen manual instruction given in English schools. Does not know of any steps taken by the teachers' organisation to understand what is meant by it and took no steps himself except by reading reports and books on the subject. Did not read the evidence taken in England except in newspapers. If we had technical schools there might be some excuse for introducing it; without them the training would be more or less lost. Technical schools should be started simultaneously with its introduction. Would be in favour of manual training if, which is possible, its general result is found to be the cultivation of hand and eye and the increase of intelligence, but does not think the system has been long enough in working to enable us to judge. Formed his opinion as to it chiefly from the manual instruction programme published by the Board. Preparing a boy for a trade would not be a suitable object of instruction in schools and therefore any manual instruction given in school should be such as would form part of a good general scheme of education suitable for every boy. There might in the higher classes be a continuation of kindergarten, if there was time, and drawing and object lessons might be considered such a continuation. It would be difficult to get the children to interpret the drawings by making things from them. Exercises might be devised to give boys a training in accuracy similar to that given to girls by needlework. Objects to the handicraft taught at present as being too extensive, and understands that from it the children have acquired a bad method of using tools, which has had to be unlearned by them when going to trades, 19040-2, 19050, 19058-65, 19078-90, 19111-25, 19124-42, 19157-61.

QUINN.

In the rural districts must as a rule be given in the ordinary and not in central schools. Time could be found for it, 19124-5, 19269.

MORRISON BROWN.

The teachers should be taught in the training colleges, and in centres by the special teachers under the scheme described under "Agriculture." The best time to teach it to the pupils would be at night, or the teacher could advance the school hours to 4 o'clock, keeping only those to be taught this subject and dismissing the junior classes at the usual hour, or he might take an hour off the present programme with safety. The work would be more or less a recreation for both pupils and teachers. Instruction might be given in such subjects as basket-making, 19291-4, 19298, 19303-7, 19345-9, 19363-2, 19384.

FORBES.

Would be an advantage, and if the programme were so modified and improved as to allow it, would be in favour of its introduction. It would make the children more observant and intelligent, would enlarge their capacities and be a recreation for them. Would expect it to improve the children in other subjects. The present programme in manual work is so extensive that nobody in his senses would undertake to teach it, 19420-2, 19440-4, 19487-85, 19560, 19522.

MAGILL.

Would not advise its introduction into ordinary schools because there is little enough time for the literary instruction. Could be taught better elsewhere. Is not prejudiced in favour of handicraft from what he has seen of it in Ireland, and no matter what is taught in that line the trades' unions will not permit the shortening of the term of apprenticeship. It may be desirable to teach children

APPENDIX E. MANUAL INSTRUCTION—continued.

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at an early age to control their muscles and give them habits of accuracy, but it is not the best use of their time in school. If shorthand and typewriting, then a few lines of handcraft should be taught after school hours. Regards it as the teaching of a trade, however called, 19551-3, 19566, 19623-5, 19639-45, 19659-7.

BUSBY.

Considers it should have for its object the education of hand and eye and not the teaching of trades, and would be in favour of it provided the school programme were revised and shortened. Thinks the school managers would be inclined to regard its introduction very favourably if the cost involved did not devolve upon them, 19466-70, 19685-99, 19710-5, 19738.

BURTON.

Handy practical carpentry to be taught, not by the school teachers, but by the nearest carpenter, to fifth and sixth class boys would be very useful. In the tourist districts wood-carving as earned on at Brienz, in Switzerland, where there is a government school of wood carving, might be instituted, 19735-9.

DEWAR.

Would be a valuable acquisition, but time is limited, and he would confine it to drawing and measurement of surfaces. One good subject to cultivate the powers of observation would be enough. Manual instruction would develop intelligence, but not as much as arithmetic or science. The boys would prefer it to literary work, because it requires less brain power. The inspectors with whom he has discussed the matter are not much enamoured of it. Would leave it optional, and confine the teaching to experts, though the teachers might at times become experts. Time might be found by reducing other subjects ten minutes each. One morning weekly might be given to sixth class, would maintain, however, about fifth, would not give it to fourth, and certainly not to third. Eighty per cent of the children never arrive at fifth class. A good plan would be to have a centre for a district in a large town. Would not admit it to be as valuable a training as drawing, but to construct an object drawn would be a good thing, 19570-8, 19607-8, 19631-6, 19637-42, 19650-8.

DALTON.

Is an intellectual training of a very useful kind, as well as hand and eye training. With drawing it is educational, without it merely handicraft or bad carpentry. Is favourable to its introduction to a moderate degree. Cardboard work would be very useful in third and fourth classes, and then woodwork. The making of objects makes the drawing more intelligible, develops the children's inventive powers and gives them originality, which grammar will never do, 20070-5, 20085, 20105-8, 20133-42, 20171-2, 20196.

BRADY.

Does not think that the children would suffer in their literary attainments by the curtailing of some of the benefits to gain time for manual instruction or other practical subjects. Thinks they would carry out their literary work with more intelligence and thoroughness. The teachers at present don't know what it means, 20368-71, 20373-7.

SEWELL.

Is strongly in favour of anything which would educate a boy's eye and hand, and would advocate woodwork within limits and in connection with drawing, 20462-5, 20610.

MANUAL INSTRUCTION—continued.

BROWN.

Looks upon it as supplementary to the mental training, and as giving an outlet for the, at present, wasted energies of the pupils, whom it will enable to give greater attention to other subjects. Drawing to plan and scale should precede woodwork. There would be no difficulty in finding time for it, as at present girls spend an hour less at ordinary subjects than boys, and almost invariably answer better. The time spent by the girls at needlework could be easily given by the boys for manual training, science, and anything else required. Would not approve of the Lamsone method of finding time. The senior pupils could remain after the others have gone away, and this would be a relief to the teacher, and obviate the necessity for a separate room. Two hours on Saturday could also be given. Should be introduced at first, but not compulsorily, in town schools, from which as centres it might, if found desirable, spread to the country. Compulsory attendance would make the teachers more ready to accept whatever scheme is adopted, but their sympathies would not be enlisted unless the subject is well paid for. Two hours weekly, one being on Saturday, and one on another day outside school hours, would be sufficient. It is very desirable that it should be introduced to do away with the idea that manual work is degrading, 20522, 20641-51, 20710-4, 20794.

EARLEY.

Would expect boys to attend better on days of manual instruction than on other days, and that the subject would be very popular with them. Believes the managers would co-operate in its introduction. Without the hand and eye training more mental cultivation is looked-sided so far as concerns the development of the child's faculties. Would give two hours weekly to it, and believes that the teachers would be willing to give the time without teaching on the present literary programme. On Saturday, which at present is lost, except in Model schools, one or two hours could be given, 20849-50, 20861-8, 20888.

CARLIN.

It is not possible to do very much in industrial work, as the children leave on the average at about twelve years of age. The children in their last year would probably benefit by a course in woodwork, and he would be in favour of it in connection with drawing, if time allowed, 20991-5, 21003.

McKENNAN.

Would approve of woodwork, as practised under the Lloyd system, if it could be done conveniently, but as afraid it could not be done in Derry, except in some central establishment, 21045-8.

PATTERSON.

Was a member of the committee appointed by the Teachers' Congress to inquire into manual training, but the committee came to no definite conclusions. The teachers would certainly receive a change in the best spirit and give it every trial if convinced it would be for the advantage of the country. In most of the schools there is only one room and only one teacher, and unless the junior classes were dismissed and an extra hour taken for the manual instruction he does not see how it could be very well done. The greater number of the children leave school before the age at which manual instruction begins in England, but a great deal of training could be given in cardboard and wire work from the infants up. If manual training were to be introduced it would be necessary to extend the time for school training to second stage of 5th. If the objections to it could be got over he thinks that

MANUAL INSTRUCTION—continued.

cardboard work, brush work in connection with drawing and blackboard drawing, and kindergarten extended to paper-folding, and cutting and mounting and crayon work might be introduced with advantage. For training the teachers, centres might be established in Ireland, or they might be paid to attend English centres. The training would sharpen the eye and the intelligence of the pupils, and a modified form of it could be introduced if the teachers were trained, a money value given to it, and the money found for it. Would be in favour of its introduction optionally in leading places where the teachers are qualified. The teachers are prejudiced by the carpentry classes which have done more harm than good, 21218-5, 21351-83, 21358, 21810-8.

ARTISTS.

The Sloyd class under the Devonshire Technical Instruction Committee, was attended by school teachers with a view to taking it in their own schools. To teach woodwork without grounding it on drawing, would be useless, 21350-6. The Committee pays a grant on the report of the Science and Art Department's Inspector, to the schools where Sloyd is taken, 21337-8. The Sloyd classes, which the teachers were most anxious to attend, have now been discontinued, but the Committee hope when funds are available, to reorganise them, and so foster the introduction of manual instruction as a compulsory subject in rural schools, 21415-8, 21544-5.

MALDEN.

Manual work was introduced at Lockerbie School in February, 1897. Considers that scale drawing, formerly meaningless, has now become practical, taken in conjunction with the manual work, 21566-9. Studies particulars of the simple exercises executed, 21570-3. The ten benches in use cost 25s each. The tools cost £35. The cost was borne by the School Board and County Council, 21577-9. There are five classes under instruction getting two hours a week. Some of the classes are held at 8 a.m., and boys from the other classes often come in for extra practice. The number under instruction is 80, cost per head 12s 6d, 21585-9. No literary subject has been omitted. The boys in ex-6 Standard taking Latin and Greek, do not take manual work. Drawing forms part of the subject throughout, and the instruction is given by one of the class teachers. Hopes to take the subject within the school hours in future years, 21602-16.

MALDEN.

Under the Edinburgh School Board the first manual workshop was opened at Sciences School in 1892. Mr. Graham, instructor under the Board, is a practical workman, holding a teacher's drawing certificate. Under the School Board, 16 schools have separate woodwork rooms, and 9 have woodwork and cookery classes in the same room. In the latter, movable table tops are fitted to the benches, the tools being stored in bench lockers. Of the 16 workshops 7 are erected in the play-grounds, 9 within the school buildings. The cost of one of the former is about £450. The number of pupils to a class varies from 12 to 24, four boys to each bench. The benches cost 6s each, and the vices 12s additional each. Considers 20 a suitable number in a class, 21675-705. In Edinburgh the manual instruction is compulsory above Standard 4. Each pupil gets from 35 to 40 lessons, while 15 is the minimum required by the Science and Art Department, with a minimum of 23 two hours' lessons for each school, 21706-11. The School Board's staff consists of one chief instructor and seven assistants, all being artisan specialists. Prefers artisans to school teachers. The School Board finds discipline is better maintained and the time-table more easily arranged

MANUAL INSTRUCTION—continued.

with the workshop attached to each school. Each assistant has two schools under him. The pupils regard it as a privilege to take part in the work, while by far the larger proportion do not adopt woodwork as their trade afterwards, 21712-35. The chief instructor drew up the Board's syllabus, based on Swedish Sloyd, 21726-32. The drawing is first executed by the pupil, in order that he may grasp the construction, but he executes his model from a plan provided, as his own sketch may be wanting in accuracy, 21737-4. Under the Edinburgh School Board, in ex-4 Standard, 164 boys receive manual instruction, in Standard 6, 385; in Standard 5, 758; and 101 are taken out of Standard 6, for whom no grant is given. The instruction, while not interfering with the literary work, keeps children longer at school, so counteracting the weakness of the primary system, 21738-49, 21875-6. The subject will shortly be taken in nineteen out of the thirty-two Board Schools of Edinburgh. Agrees with the opinions of head masters, as quoted, that the instruction should be extended, and is highly popular with the boys, &c., 21753-65. In 1890-91 there were 40 per cent of the pupils in or above Standard 5; this year there are 49 per cent; in 1895-91 the percentage of pupils over thirteen in and above Standard 5 was 28: it is now 45:1. Attributes these improvements in great part to the manual instruction. The children can obtain a certificate of exemption after passing Standard 5 which corresponds to eleven years of age. The average age of children at manual work is eleven, which is not considered too early, 21766-78. The total cost to the Edinburgh School Board is £290, salaries to instructors £750, cost of materials (i.e. per pupil on 1,400 pupils) £70. The receipts are, a grant of 5d per attendance per week for forty-two weeks on 1,400 children, £496, and 50 per cent for the "excellent" grant, £93, making in all £595, leaving net cost to Board £325, 21779. This does not include the cost of building and original equipment, 21818-24. The subject is compulsory, and no opposition was encountered to its introduction, 21780-6. While the trained teacher should be the better instructor if equally skilled, in Edinburgh the skilled artisan has been found perfectly satisfactory, 21787-91. The Edinburgh system observes all the principles of Swedish Sloyd, differing only in the use of the knife, 21792-7. The chief educational aim is to cultivate accuracy of observation, 21798-9. The introduction of the work was experimental, and has since been progressive, 21810-3. It does not interfere with the proficiency of the pupils in literary subjects, and they are better equipped for after-life, 21825-9. It is popular with pupils and parents, the only objection being the increase in the rates, 21830-6. It is taught in two of the Board's evening schools, 21839-42. It is of benefit to pupils who afterwards go to technical schools, 21843-4. The time taken from literary subjects for manual work is but one hour in three or four weeks, the rest being outside school hours, 21852-7, 21881-5. Woodwork is not carried out in the growing school of the Training College in Edinburgh, 21886. Though the constant instructors get no training in pedagogy they maintain discipline perfectly, 21898-73. Advantage of manual work as preparatory to engineers' work, 21919-23. The workshop preferred to the center, and the specialist artisan teacher preferred, 21927-33.

GRAY.

The cost of a stone-built workshop, fitted up with complete sets of tools, is between £650 and £700. Considers it might be built for £400, 21943-8, 21955. The instruction opens the minds of the boys to the possibility of then being best fitted for manual or technical employments, while an exclusively literary course suggests only the idea of becoming clerks, 21948-54. The cost per child of education under the

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Edinburgh School Board is £2 18s., the cost of the manual training 3s. 2d. per child, 21956-9. Considers the objection that children of ten and eleven are too young to handle the tools, at no account, 21974-6.

GRAHAM.

Is Chief Instructor under the Edinburgh School Board. Pupils commence the subject in Standard 5 at ten or eleven years of age. Of the two hours per week instruction, one hour is taken after school hours, the other falls by arrangement on a different subject each week. Very few take up the work at ten years. Few boys remain until fifteen, and get the three years' course. They are keenly interested in the work, and regular in attendance. The grants gained from the Science and Art Department are the highest awarded, and cover about 50 per cent. of the expenses, the other half being defrayed from the rates, 21984-2000. The provision made by the Edinburgh School Board is sufficient to accommodate 1,800 pupils, 22008. Artisan teachers are employed because trained teachers cannot be obtained, 22001-7, 22043. These teachers went through a course of drawing at one of the technical schools before being appointed. An ordinary carpenter would not be a suitable teacher unless he had such a training, 22053-8. Evening classes, started to train school teachers, were discontinued, as it was found that the conditions under which they work in their schools, do not permit of their taking up the subject, 22009-12. While under instruction they made such progress as would guarantee their being capable instructors for the initial stages only. School teachers trained in manual work and devoting their entire attention to the subject, should be the most capable instructors. For hand and eye work, drawing and manual instruction, would prefer specialising to instruction by a class teacher. Considers an intelligent teacher with an aptitude, should with a two years' course of one hour per day, acquire the necessary skill. For those who as boys had received manual instruction in school, about 250 hours spread over their training college course, would be sufficient. These evening classes lasted for six months in the first year, and six months the second year—one lesson per week of two hours. This was sufficient to fit them to teach the initial stages, but to become skilled teachers a further course would have been necessary, 22005-127. Gives particulars about manual instruction classes in connection with two evening schools in Edinburgh, 22013. The fixed grant for the work depends not on individual, but on class examination, and compliance with the rule fixing the minimum number of attendances. The higher grant depends on the inspector's report of the general efficiency of the work, 22014-23. The age of the pupils, not the standard, should decide the stage of commencing the instruction. In Edinburgh a number of children begin between ten and eleven years, when they are physically capable of handling the tools, 22021-31, although no grant is received for those in Standard 4, 22050-4. Boys dull at literary work are made lighter by success at woodwork, 22032-8. For economy of time, prefers two consecutive hours to single hours twice a week, 22059-62. Prefers giving cookery and manual instruction in the same class-room, 22047-50. Drew up his own syllabus of work. Would prefer simple inspection to the annual examination, which hampers the work. Also objects to the tests imposed by the inspectors, as devoting too much attention to the production of trade joints, whereas children take more interest in completing concrete objects, 22059-73. This results in his having to produce joints which he knows will be required, so consuming time and interrupting the sequences of his syllabus, 22066-64. In Edinburgh there has been no objection to manual instruction from trades unions, 22075-4.

MANUAL INSTRUCTION—continued.

M'G MURRAY.

Is Head Master of the Science school, where Mr. Graham is woodwork instructor. All the boys in 5th Standard and upwards in his school—about 300—take woodwork instruction, which is given on three days in the week, the instruction room being utilised for cookery classes on Mondays and Fridays. This arrangement is economical, and places these subjects in the same relation to him as the literary work, 22138-41. The boys take increased interest in their work from change of occupation, and it improves their physical powers. Gives a tabulated return showing various avocations followed by boys who received manual instruction. It also improves their skill in drawing, especially the model drawing from Standard 5 upwards, and the regularity in attendance, 22146-53. The difficulties in its introduction arise from a crowded curriculum and the manner in which it breaks up the work of the ordinary subjects. Explains how the latter is met, 22153-5. The advantages outweigh the disadvantages. Would advocate its introduction into the entire school system. Agrees with the testimony of Dr. Kerr, as quoted, as to the value of the instruction, 22159-211.

SCOTTAL.

Is Inspector of Schools in Leith. The Craighall-road School is the only one out of the thirteen under the Leith School Board that takes up woodwork. Describes the work done. Although only in an experimental stage, the value of the work is proving itself year by year, 22534. The Leith School Board has a special artisan teacher, 22538. Would prefer a trained teacher on principle, if one could be obtained, 22539-41. As illustrating the effective nature of the instruction, mentions the opinion of a practical engineer recently elected to the School Board, as an ex-convict, who, writing to witness, said that the woodwork astonished him greatly, being such as would put to shame the work of many tradesmen, 22581-2. Parents have not expressed discontent at the introduction of the subject, 22644-7. Lately the teaching of history has been to some extent dropped for the inclusion of manual instruction, &c., it is now taught by means of readers, 22648-9. Would prefer manual instruction to book keeping as a subject of instruction, 22656-7. In the secondary schools in Edinburgh woodwork and metal work are found quite compatible with a very thorough classical training, 22685-6.

BEAN.

Is Inspector of the "North Scotland" district under the Science and Art Department. In Edinburgh two-thirds of the schools take woodwork, in Leith only one, in Dundee five or six, in Aberdeen three or four. The work in Dundee and Aberdeen, while improving, is not equal to that in Edinburgh, 22705-10.

GOLVER.

Advocates woodwork as a subject of instruction in secondary schools, where children are from fourteen years and upwards, but prefers for elementary schools the simpler hand and eye exercises to carpentry, 22820-1. Manual instruction, while not as essential part of the preparation for technical instruction, is an essential part of elementary education. The kind of manual instruction referred to is woodwork, cardboard-work, and other light occupations generally, rather than carpentry. Distinguishes woodwork on the Stoy system from carpentry, 22843-58.

CUTKERTSON.

Manual instruction was introduced about six years ago in the Glasgow schools. The School Board has at present ten workshops—seven in operation and

MANUAL INSTRUCTION—continued.

three nearly completed. One of these is a centre accommodating nine schools. Would be inclined to restrict the subject to boys of twelve years or to Standard 5, although the testimony of the masters is entirely in favour of it in the 5th Standard. It heightens school life, and the duller boys are often the most apt pupils at it. The Board's instructor is a mechanical engineer, who is taking out a university course. The initial outlay in fitting up a centre is considerable, but if many schools avail of it the grants cover the working expenses, £2891-7. The School Board has encountered some small opposition from parents who are ill-informed as to the object of the instruction, £2014-32. There are two mechanical engineers acting as the Board's instructors, with artisan assistants, £2025-7. In the beginning the teachers received the subject with reserve, which is now, however, wearing away with an experience of its educational uses, £2060-5. The trades unionists, also, had to be convinced that it was not an attempt to do away with apprenticeships, by manufacturing artisans in the elementary schools. While manual instruction qualifies a boy better to receive trade instruction, it is solely by encouraging habits of accuracy and observation, not by teaching trades, £2096-105. Pupils from thirty-four of the Board's schools attend at the existing centres, £2111-5.

G. W. ALEXANDER

Instances cost of erecting a manual instruction centre, fitted with benches, also cost of a hour for two pupils, and of tool equipment, incurred by the School Board in two cases. Given total grants and expenditure on one centre for last year, showing a profit balance of £20, £2128-34. The Board's teachers are artisans, which is a matter of necessity, not of choice, £2135-8. No history subject has suffered, as the majority of the classes meet from either 9 to 11 or from 3 to 5, which means an extension of one hour, £2219-41.

NORWELL.

Is a Manual Instructor under the Glasgow School Board. Was an engineer, and took out teacher's certificates under the Science and Art Department. Teaches the woodwork throughout in connection with drawing, the boy making his own drawing in every case. Keeps the educational aim uppermost. Had five years' experience teaching Science and Art classes before taking up manual instruction, £2426-45.

DUNCAN

As a head master, taught manual instruction in his own school—a country school in Staffordshire—previous to becoming a manual instructor under the Glasgow School Board. Thought it is the ordinary schoolhouse, renting five double benches and the tools from the County Council. The school was not a Board School. Believes the managers of private schools are in favour of the instruction. In his scheme introduces models from the commencement in order to sustain the pupils' interest. Found time for the subject by shortening the instruction in arithmetic, and by dropping geography and history. Would not advise shortening the English. Found no more resistance arising from carrying on the instruction in the ordinary school. The time given was two hours per week—one and a half hours out of the afternoon school and half an hour outside school hours. Has had as assistants skilled workmen and school teachers, and found the former generally unavailable. The most successful assistant he ever had was a school teacher whom he had trained for six months, giving him four hours a week, £2470-26.

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Kear.

Is Head Master of the Allan Glen's Secondary Science School, in which all the pupils take up manual instruction, beginning from ten years of age. Finds they have no difficulty in using the tools. The subject affords great relief and variety to the ordinary work, so that the time they spend does not interfere with their efficiency in the rest of their work. Would say its greatest advantage is that there is more absolute individual effort estimated by the individual manual instruction than by all the other subjects, where forty or fifty pupils may be taken together in a class, £2512-32. Would strongly urge a course of manual instruction, even in the case of boys going to apprenticeships. While it has a quickening effect on a dull boy, cannot say that he has observed any boy dull in his ordinary class, show any special ability over his neighbour in what is really interpreting a drawing and constructing it in woodwork. Would introduce some form of manual instruction in all elementary schools without regard to whether time could be had or not, and prefers woodwork to science where there is question of introducing one or other, £2512-41. Would not, however, displace English by woodwork however much he thought of it, £2551-6. Owing to the existence of trade unionism, the apprenticeship of boys leaving his school is not shortened, but the general testimony is that they make far more out of their apprenticeship, and get more readily into places as foremen as a consequence of the manual instruction they have received. His boys commence the work at nine and ten years of age. Finds it is physically profitable to teach it at these ages. The drawing is taught by the ordinary class teachers who teach the pupils how to make the plan and elevation of the model, sometimes, however, the work is shared of the drawing and vice versa. Is afraid there is, in practice, too much copying of plans and elevations from the teacher's plan on the blackboard. Illustrates this from his own experience, £2606-16.

Low.

Gives the genesis of a fund which the Town Council of Dundee received in 1891 for the purpose of technical education. A committee appointed to allocate the money, after some experience, recommended that something should be done to provide opportunities of self-improvement for the lower class lads of Dundee. In 1892 the committee was enlarged to a joint committee of the School Board, Town Council, and Trades Council, which established two evening centres for manual instruction for the poor boys of the city. The trades union, at first antagonistic, afterwards strongly supported the movement. Subsequently continuation classes in the ordinary elementary subjects, reading, writing and arithmetic, were added, many of the boys being unable to read or write. The committee therefore resolved to impose, as a test of the boys' desire for improvement, that they should take two nights at the continuation classes to qualify for the two nights' manual instruction, £2627-45. Classes in clay modelling and higher drawing for advanced students under the Science and Art Department were added later on, as forms of manual instruction. These have not been so largely attended as was anticipated, £2646-8. Gives number of boys in attendance in years 1892 to 1897, in the manual instruction classes, ranging from 399 to 760, the latter number being limited by the accommodation available, £2648-52. In 1892-3 with nothing but the manual instruction classes, and consequently no grant from the Education Department, the outlay, defrayed by the grant of the Town Council, amounted to £401, in 1893-4 with the continuation classes started, the outlay was £232, the Education Department's grant, £461, in 1894-5 the outlay was £232, the Department's grant, £438, in 1895-6 the outlay was £218, the Department's grant, £286, in 1896-7 the outlay

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was £728, the Department's grant, £415. Hitherto, although part of the expenses every year was capital outlay, yet the Education Department grants, when taken into consideration, have reduced the average outlay of the Town Council to £800, 1905-6. Dundee receives from the local taxation grant about £1,400 or £1,500 per annum. For the manual instruction, practically the pupils do not cost more than an average of £1 per head, 1908-9. A grant is also obtained from the Science and Art Department for the few boys taking clay modelling and drawing, 1907-8. The local education rate in Dundee for 1897 was 1s. 1d. in the £1, 1913-14, 1914-5, 1915-6. Explains the aims of the committee in providing the manual instruction classes, and the improvement effected in the restraint and discipline of the boys. It is now the boys would not be attracted to an evening school which taught reading, writing, and arithmetic alone, while the manual school has an undoubted attraction for them, 1904-6. A good few have stayed on three years, so that a few of them were drafted this year into the Technical Institute, 1906-7. For the reading, writing, and arithmetic, certificated teachers who are engaged in the day schools, are employed. For the manual instruction, woodwork, clay modelling, and drawing, special artizan teachers are employed. The joint committee has found intelligent tradesmen quite adequate as teachers, 1907-8. As a general rule drawing cannot be taught in connection with the manual instruction to the average pupils attending those classes. They are taught to take measurements and to plane wood thoroughly and evenly, and put the pieces together in a methodical way. Few of the boys have had drawing in the day schools: it is virgin soil as regards that part of the instruction, 1907-8. Has no doubt about the good effected by the classes, although, owing to the rough material, few pupils have qualified for the Technical Institute, 1908-7. For the boys already advanced in literary work, advanced instruction is given, but the greater number have to be taught the very lowest rudiments of education, 1908-9. The object of manual instruction is to make handy boys who may be ready at any trade they may go to. Tradesmen appreciate this, and prefer boys from these schools as being more intelligent apprentices, 1909-10. The Technical Institute of Glasgow requires £500 out of the Technical Education grant. This is the first year any of the boys from the manual instruction classes have gone to the Technical Institute, 1911-6. The average attendance of the boys at the classes is about 700 this year, 1912-3. The parents are delighted that the boys should attend, 1914-5.

ELLIOT.

In Chairman of the Manual Instruction Committee of the Dundee Town Council. The classes are mainly attended by mill lads, 85 per cent are from the poorest families in Dundee. The accommodation is not adequate for the number of applicants. The good effects on the discipline and conduct of the boys has been marked. The teachers chosen are first-class tradesmen, if possible possessing Science and Art certificates, and with a knowledge of method of teaching, 1909-8. The classes open at 7.15 p.m., and close at 9.15 p.m. on four nights each week, 1909-6.

MACDONALD.

Does not know of any social movement in Dundee which has been so beneficial to the poorer classes of boys. The change in behaviour and intelligence is such that, no between six years back and the present, one could not conceive that the pupils were from the same class of boys. These classes take the children of the rubbish or migratory lower class, which no school

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board can possibly get at. The manual instruction is a link to them to get them to attend the literary classes, 1907-9. In one of the academies under the School Board, manual instruction is given, but the boys taking it must pay an additional fee. The School Board has also one manual instruction centre in connection with its elementary schools, to which pupils in standard 6 are drafted. It is in an experimental stage, 1908-4. The pupils from six schools at present attend it. It is very popular with the boys, and may serve as an inducement to them to remain longer at school, 1909-4. Considers that in the case of Irish schools where compulsory attendance is not in operation, manual instruction on the lines introduced in Dundee would be a strong incentive to children to attend, 1909-3. In the beginning great difficulty was experienced in bringing the manual instruction classes within the regulations of the Education Department. The Department on representation accordingly modified the regulations to suit the classes, 1909-1.

ROBERT CALDER.

Is Inspector of Schools for the Dundee District. Considers these manual instruction classes an important social movement, and agrees with previous witnesses as to the educational effects, 1908-9. In the High School, which is not under the Board, there is one of the best workshops in Scotland. The instruction is given by teachers on the staff, who teach in conjunction geometrical and other drawing. The boys are very fond of the work, 1908-7. Has often thought it would be useful in preventing the leakage from the upper standards in the School Board schools, 1908-30.

TANNAH.

Is Head Master of the James-street Continuation School, Dundee. Emphasises the absolute inducement which the manual instruction classes exercise in getting this class of boys to attend school at all. Strongly approves of manual instruction in all phases of school life; habits of painstaking industry, accuracy, observation, and application are inculcated. It should, preceded by appropriate hand and eye exercises, be introduced in all schools, 1907-7.

DORRIST.

Distinguishes between manual instruction and hand and eye training. Would confine manual instruction to the senior classes in the schools, and make the subject optional, chiefly because of its expensive nature, 1917-8. In examining manual instruction inspection should be substituted for the results fees system, 1918. In training colleges all male students should receive a course of manual instruction, but it should not be a compulsory subject of examination, because its expensive nature prevents its general introduction in the schools, 1918-8. If the boys in the senior classes did not take woodwork, they should take some one of the subjects of manual instruction commensurate, to cultivate their powers of observation, for the girls, also, a suitable subject of the same nature and serving the same purposes should be insisted on. In all these cases would strongly recommend, not be a results examination, but an inspection, 1918-9. Compares science instruction and manual instruction, prefers the former as an intellectual training, the latter because less strenuous is placed on both teacher and pupils, and in a degree it trains the same faculties, 1919. Would make one science or manual instruction subject compulsory for male students in training colleges, 1919. Distinguishes between hand and eye and manual instruction. Would make the former compulsory in all schools, the latter, which it is not possible to introduce into country schools, should be encouraged in city

MANUAL INSTRUCTION—continued.

schools, 24222-34. Believes the time-table could be so reconstructed that 2½ hours could be given in the week to manual instruction without sacrificing any of the literary programme, 24244-51. The subject should be taken in the schools after the junior pupils have been dismissed, at 2.30 o'clock, p.m., 24415.

PAXTON.

Does not consider metal work practical at all in National schools. Would recommend woodworking for the large schools in towns, in the higher classes. To train the teachers it would be necessary to send specialists round to certain centres, beginning with the town-centres and training colleges, 24740-7. The woodwork, where introduced, could not go on during the ordinary school hours; the junior pupils might be allowed to go home at two o'clock on one day per week, 24771-8. Distinguishes between manual instruction and the teaching of trades, 24899-909.

TRISTRAM.

In Organising Secretary of the Irish Church Diocesan Board of Education in Dublin. Gives summary of replies to certain queries put to the managers of schools in connection, amongst which are replies to queries as to whether handicraft is taught, whether processes or appliances suitable for such instruction are available, whether any local resources are available, 25022-4; whether they would be in favour of introducing manual training, provided a substantial portion of the expense were borne by the State, 25061, 25163-7. Strongly advocates the introduction of manual, as distinct from technical instruction. Would not introduce woodwork before the fifth class. The literary curriculum might be curtailed, if necessary. In the training college would substitute it for trigonometry and advanced Euclid. The Science and Art Department should modify its standard, so as to bring its subdivisions within reach of Irish schools, 25062-63. To introduce manual instruction it would be necessary to modify the results free system, and to reduce the minimum average attendance necessary for an assistant teacher. Saturday classes in centres

MANUAL INSTRUCTION—continued.

would provide means of training the teachers now conducting schools, 25067-8. Saturday might also be utilised for manual instruction, 25112-3.

MARAFFY.

The chief difficulty in introducing manual instruction is the unpreparedness of the present teachers. They should be afforded facilities for training at holiday courses or in technical colleges, 25190-4. Time might be found in the schools for the instruction by dismissing the lower classes earlier on one day in the week, 25194-8. Another difficulty is the tendency in Ireland to moderate and degenerate manual toil, 25225. The teacher should get every opportunity of qualifying to teach manual work if it were proposed to introduce the subject into the curriculum, 25275-91.

KENOSKILL MOORE.

Would be in favour of encouragement of woodwork in fifth and sixth classes. Difficulties as to plant and suitable teachers would arise. The success of such a subject will depend largely on the syllabus of the Education Department, according as it is wise and workable, 25423-6. Mastered the English system of manual instruction in hopes of being able to introduce it into his college, but found it impossible owing to want of time, 25445. The present handicraft programme has no relation whatever to Lloyd, which is beyond question more appropriate to schools, 25491-800. Does not see why the entire system for manual work should not be adopted in Dublin, 25556-7.

BARRETT.

Is an absolutely essential branch of school work, and with proper arrangements, and a capital teacher, might be carried out even where there is only one teacher and only one room. Thinks it has a quickening effect on the other branches of school work. It should be based on drawing and taught purely for its educational advantages, and not as a trade, 26142-7, 26157-63, 26167-9.

MUNSTER DAIRY SCHOOL.

COLLINSBURG.

Established in 1849, and was about to be sold in 1880 when a local committee intervened, and, after negotiations with the Education Commissioners and the Treasury—in which the Committee agreed to pay £100 a year, for three years, for the lodging of male pupil teachers away from the school—succeeded in re-establishing it. Of the 135 pupils who attended up to 1885, seventy-eight were paid for, thirty-six by members of the committee, and forty-two by subscribers to the school. Mr Carroll—the first superintendent, who left after 1881—was a very good superintendent, but the school was even more successful under his successor, Mr. Smith. Without a local committee, however, the school could not possibly have existed. The time for dairy made in the school, which was at first a month, was afterwards extended to six weeks, and in 1884 the present system of three terms of two months each, was started. This institution, which is the only one in Munster in which agriculture is taught, has connected with it a farm of 126 acres, 14816-51.

RICHARD BAXTER.

Success of, almost absolutely due to the action of the local committee, 14832-4. £500 a year had to be collected for the first two or three years. The subscriptions lately are rather scanty, but, after paying the superintendent £50 a year in addition to his

salary, the balance goes in prizes, 14854-6. There is a grant of £2,000, practically intact, the interest of which is used in butter and other experiments, 14857-8, 14892. There is a museum, and a course of twenty-six lectures, with practical demonstrations, is given in chemistry and veterinary science. The students do the practical work of treating diseased animals, and of testing milk and butter, 14890-42. We put up power separators, and make the students qualified in their use—and fit to be heads of milk and butter factories, 14845. None of the students are National teachers, but teachers could be trained in agricultural chemistry, and would avail themselves of such an arrangement, 14846-9. If the National school pupils got a better foundation in agricultural chemistry, the results of the dairy school would be better, 14849-57. A demand for an extension of the school for male students has been made before the Government, 14853. Some of the students came in at fifteen years of age, but the limit is now seventeen, the children leave the National schools at thirteen or fourteen, but nearly all go to a higher school. The committee had no scope to start a primary school as a preparation for the dairy school, 14856, 14890-8. The session for 1904 is between four and five months, but the male pupils have never been successful, 14869-71. The instructions given has graded up the butter in the Cork market £10,000 a year, 14873-4. The number of female dairy students was at first limited to under

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MUNSTER DAIRY SCHOOL—continued.

thirty, but under the great pressure brought on the committee, it was extended to thirty-six—too large a number to do full justice to, owing to the insufficiency of material, 14370, 14377-9. Describes rotation of work amongst the students, who, in addition to dairying, practice, under a ladies' committee, needlework, cookery, and laundrywork, 14379-83.

LUDLOW A. BEAMISH.

Describes the course of dairy instruction for girls, and the method of testing in practical work, 14384-8, 14398. Formerly the male students were given a session of four months, from 20th August to 10th December, but in 1895 an additional month—20th July-20th August—was given. The local committee considered this little better than a farce, the whole seed time and summer work being omitted, and took various steps to bring the matter under the notice of the authorities. Mr. Arthur Balfour, Mr. Morley, and Mr. Gerald Balfour were applied to, and the committee suggested that the existing farm should be maintained as a dairy farm, and that a farm of 450 acres—which would supply all Munster—should be taken for the boys, and accommodation provided for thirty pupils, the estimated cost being £8,000 in capital and £2,850 a year, including the amount already spent on the school, 14389-95, 14904-5, 14910-3. Six men are employed on the farm, but a competent bullfinch and competent foreman are greatly needed for the purpose of carrying out experiments, 14395, 14923-4. Describes the experiments made with reference to water in butter, the unsuccessful efforts made to induce the Commissioners to sanction experiments in pig rearing, and the influence of the local committee in arranging for the employment of the itinerant instructors appointed by the Commissioners, 14396-7. If the children were well grounded in arithmetic, and, perhaps, taught geometrical drawing, experimental science, or woodwork, or anything

MUNSTER DAIRY SCHOOL—continued.

which would inculcate accuracy, they would be more likely to benefit from the training in the dairy school than if they had got a smattering of agriculture in the primary schools. The present teaching of agriculture in the schools is of very little use, 14398-3, 14906-8. In addition to dairying, cookery (which is particularly successful), laundry (which is excellent, though the pupils don't take much an interest in it), and needlework, are taught, and these classes could be used for training National teachers, 14900-4, 14914-3.

The applications for admission are far in excess of the accommodation. The pupils are in the main farmers' daughters; 38 71 per cent. re-enter for a second term, and preference is given to former pupils in considering applications. Seventy-three per cent. of the pupils afterwards get places as dairy maids and in factories, 14902, 14915-6. A diploma is only given for two terms, 14917. A course of two years is necessary for a male pupil, 14908. Details the income and expenditure of the school, 14918-25.

RICHARD H. BEAMISH.

Carried out useful experiments, but found there was no knowledge of what accuracy means, 14937, 14939-64. Has proposed experiments which have been always refused, Mr. Carroll saying he will do his best with the Commissioners, but the Commissioners having their difficulties with the Treasury; and the practical result has been to prevent work for the improvement of the country, which is successful in other countries, 14938-9. Does not think experiments could be carried on by people having an interest in the subsidising, 15004-6. The pupils, the work being heavy, are taken in only from 17 upwards, but if a girl was strong at 15 there would be no objection, 14938-3003. Discusses the making of experiments, 14942-3. If the pupils were taught greater accuracy of thought and work in the primary schools they could be given, in the dairy school, the real knowledge with greater facility, 14941.

NATIONAL SCHOOL CURRICULUM—MODIFICATION OF.

SKEFFINGTON.

Would have grammar and geography optional in second and third (or third and fourth), but not in upper classes, and would teach them a good deal by well-written lessons in ordinary reading books, 14522, 14532. Would omit oral spelling, except for the infants, and teach writing and spelling altogether by transcription. Would have the second class to write with lead pencil, and would introduce the pen in the third class. Time would be saved by economising the energies of the child and the teacher in the junior classes, and they would have more time to spare for the upper classes, 14547-52, 14558. Instead of the optional subjects that are now taken up some practical branches could be taught, and memorisation should be separated from geometry, 14553-7.

LUDLOW.

Would cut off grammar and geography in the third class, 14668. The children's powers of observation should be cultivated better than under the present system.

BURN.

There is room for a diminution in the compulsory subjects; in grammar the difficult parsing, in arithmetic the intricate operations, and in geography the extensive memory work could be eliminated with great advantage, both to teacher and pupil. The children could have a very nice equipment in reading, writing, and arithmetic—the substance of the lessons, the writing of a nice letter, and general intelligence.

To introduce drawing, science, and manual work, it is absolutely necessary to modify the instruction in other subjects. If the programme with regard to the "three R's" was curtailed, and the other subjects introduced, even on a small scale, it would make the boy's education more harmonious, and would develop all his powers, 15065, 15073-80, 15082.

POWELL.

The great demand is for a literary education which will fit the children at once for mercantile pursuits. Unless the programme is lightened, it would be hard to put upon the teachers and children the extra programme of manual work. To the teaching of grammar and geography as undue importance is given. These subjects might be reduced, and compensation given by including instruction in them—avoiding dates and facts, however—in the reading lessons. The teachers are jealous of any encroachments on the working day, and feel that the time at their disposal is little enough for the literary programme. Must look to the lightening of the programme rather than to a reduction of the time, 15107-13. Suggests alternative programmes suitable to different localities, which the National Board, through its inspectors, should control. Does not wish to withdraw the managers' control of the programme, but it is not desirable to bring the managers and teachers into friction, 15123-31, 15144.

T. J. ALEXANDER.

The first mistake made in drawing up the programme was the division into sub-heads, the com-

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continued.

sequence of which was that several portions of important subjects were practically labelled as of no financial value. Gives as instances of its indefiniteness the requirements of reading for infants and first class, of arithmetic in second class, of geography in fourth class, and of grammar in fifth class, the result being a lack of uniformity in the practice of inspectors and teachers. Under the programme, which requires to be thoroughly overhauled, as a preliminary to the introduction of manual training, enlightened teaching appears to be discouraged. Would admit grammar and geography in third class, and largely reduce the programme in these subjects. Would eliminate parsing in the fifth class, and include grammar in the sixth class only in a composition test, 15151-5.

SHARP.

Should not like to see the literary programme interfered with, but Saturday morning ought to be given to manual training and physical science, the teachers getting additional remuneration, 15213-4. Owing to the new "explanation" programme in reading, there will not be such a demand for grammar. Geography might be much curtailed, particularly in regard to sixth class, 15397-9. Time might also be gained by leaving out "extras," such as botany, physical geography (because it is not taught intelligently), Latin, Greek, French, shorthand and typewriting, so that time might be found on ordinary week days for manual work and science. The teacher is principally the judge as to introducing "extras," the manager scarcely ever exercising his power. Objects to pupils badly educated in the ordinary literary programme being put forward in "extras" of very little value, 15307-20. The object of every subject taught in elementary schools is to make the children intelligent, but intelligence and preparation for a future life are practically the same, 15321-23.

E. J. MITCHELL.

By limiting the time for grammar, geography, and arithmetic, by modifying the programme, time might be found for manual training, 15330. Must teach on Saturday in the Model school, and use that day for drawing and other subjects which most require the extra time, 15395-7.

DENNEY.

Would substitute for agriculture in towns, experimental science, drawing, both freehand and mechanical, meaning by the latter drawing to scale, and practical geometry, plane and solid, and perhaps isometric projection, and as far as possible manual training. The business of an elementary school is really to give a sound knowledge of reading, writing, and arithmetic, and to develop intelligence and habits of accuracy by every means. By changing the results system and modifying the teaching of grammar and geography, time would be found for drawing, woodwork, kindergarten and elementary science, which would produce more really intelligent pupils than at present. The education, especially in the rural districts is too literary, 15412, 15526-3, 15556-5, 15575. Memorisation should be separate from geometry, and taken at an earlier stage, 15463-5.

GAMBLE.

In favour of having grammar, geography, and arithmetic curtailed in the higher classes, and the time so gained devoted to letter writing and drawing. Approves of the analysis of simple sentences, 15498-500, 15624-7, 15688-94.

MISS SPRING ROSE.

To make room for housewifery subjects, grammar should be greatly curtailed, and arithmetic should be

NATIONAL SCHOOL CURRICULUM—MODIFICATION OF—
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curtailed and made more practical. Simple book-keeping and accounts would be very useful. Geography is not taught intelligently at present, being only a string of names which convey no idea to the children's minds, 15751-5, 15801-2, 15881-9.

G. BATHMAN.

The programme, which begins to expand in the third class, is too heavy in the higher classes and should be curtailed. Would suggest the omission of syntactical parsing in the higher classes, and that the geography programme should be cut down extensively, or omitted in its present form. Would retain grammar in the third and fourth classes. If extra subjects are to be taken up, such changes will be necessary. Instead of the present extended course in arithmetic, would have a practical course, including mental calculations, 15931-9, 15949, 15970. Would advocate shorthand and typewriting in town schools, 16005.

W. B. JONES.

Grammar in the way it is taught in the upper classes is almost absolutely useless, and should be replaced by English composition, in which the correction of local vulgarisms and spelling could be included. There is not time to use good methods of teaching it. Writing should be judged by penmanship only. The arithmetic is far too extensive from fourth class up, and should be replaced by simple accounts, done with rapidity and correctness. In geography there is too much required, and the learning of lists of names, the heights of mountains, and lengths of rivers, should be abolished. The pointing out of places on the map should be essential. A textbook on the subject is a valuable auxiliary when used properly. Would find room for experimental science of a simple nature with object lessons in the junior classes. The object lessons in the country should have special relation to agriculture, and in the towns to local subjects, which would develop powers of observation. The science course should be taught from the fourth class to the end. Memorisation should be made distinct from Euclid, and separately paid for. The course for second and third years of both subjects and of third year's Algebra should be curtailed. In almost every other country the school authorities provide the instruments and books; here there is considerable difficulty in providing instruments, 16124-22, 16169-72, 16192-3, 16228-50, 16233-40, 16290-7, 16306-7.

BRADSHAW.

Would not cut grammar, which is most intellectual exercise, but would curtail geography and make it more interesting by introducing geographical readers. A person should be able to find out places of importance on the map. The course in arithmetic is too extensive, and should be confined to commercial and mental arithmetic, and mental calculations, 16417-9, 16441, 16462-3, 16504-10.

MRS. REV. DR. O'DWYER.

Needlework should be taught in every girls school, town and country, cookery might be taught in the towns and in the intermediate class between urban and ordinary rural schools, laundry work might be tried in the cities and large towns, shorthand and typewriting might be taught in the higher convent schools in the cities. Technical education should not be given in the primary schools (exception being made of needlework in girls schools, of cookery more or less, of laundry work much less, and of typewriting less still), but the course should be to cultivate the faculties of the pupils, and to prepare them for technical education afterwards. When the special subjects are subtracted from the school time, not much is left for

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the literary programme, which is very high in some respects, but very wretched in the proper sense of the term. An amount of arithmetic is taught which is a mere waste of time, and a lecture to the pupils and teachers, an amount of geography which is very futile too, and a higher course in grammar which is very severe. A good substantial literary education in reading, writing, and arithmetic, and things connected with them, and cooking and needlework, is a sufficient amount of education for the Board to attempt for girls. In the country schools, would enlarge the children's ideas by their literary training. There is a danger of carrying practical training too far, but cannot say that at present the literary programme is well done. To teach and encourage them to read and to think for themselves is the best that could be done for the country people. The system generally should be changed, so as to adapt itself to the wants of the different districts, 16311-2, 16501-5, 16616, 16620, 16641-4, 16651.

ARCHDEACON HAMILTON.

Reading, writing, arithmetic, spelling, grammar, and geography are essential, and it would be dangerous to diminish the time for them. A few might benefit from typewriting, shorthand, drawing, &c., but a great many would lose by their introduction. The cultivation of children's reasoning powers might be begun in connection with the literary subjects, and more time allowed for explanation of the reading lessons. To take away from the literary instruction by the introduction of other subjects, would be to defeat the purpose of the children's parents, 16735-63, 16746-7, 16775.

DESLANE.

Arithmetic in the higher schools not to be curtailed and exercises in mensuration, plain figures or simple solids substituted for complicated problems, 16840-1.

LALRY.

Would not interfere with the present literary programme. After school work would be the time for practical training, 16930-4. The pupils however might get instruction which would enable them better to benefit by technical instruction, such as drawing and science, and something which would give a sense of accuracy and develop the faculty of comparison, 17035-43.

LYSKIE.

Grammar and geography should be continued. The programme is not at all too literary, and it would be a retrograde movement to reduce its amount. It would be desirable, however, that something in the way of practical and manual training should be added, and that the programme should be arranged to suit children according to their attainments, for small schools with one teacher as compared with large. Once the children are in school it is easy to get them to remain beyond the ordinary school time, 17137-8, 17166-9, 17210-9, 17236-43.

COURTESAY CLARKE.

Should be made more effective in fitting boys and girls for their life work, in giving them habits of observation and in teaching them to think. There should be a wider course in reading, which would bring the children beyond the school books and in contact with literature generally; grammar and geography should be retained, but the present form of teaching is not the best by any means. Some form of manual and practical instruction should be introduced, and the programme should have regard to the neighbourhood, 17360-3, 17380-1, 17392-4, 17418, 17435-8, 17472-4.

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WELFEL.

In Galway district, grammar and geography get between them five half-hours weekly, and this time should not be diminished. Grammar could not be taught to any useful purpose in two half-hour lessons. Geography as taught at present is not much calculated to develop intelligence. It would be a good thing to take reading, grammar and explanation of sentences in the reading-book, as one conjoint subject, but the joint time should not be diminished. Analysis would be a great advantage in sixth class, 15764-8, 17589-92, 17596-7, 17630-37, 17693-701.

KELLY.

A good deal of the grammar taught is not practically useful and could be curtailed. Advanced arithmetic should be omitted to make way for mensuration, 17743, 17763-4.

CHYAN.

The present programme is too heavy to allow an addition to it except outside school hours or on Saturdays. The time for the different subjects could not be reduced (except the requirements of the programme were lessened), owing to the irregularity of attendance which imposes double work on the teacher, the difficulty of teaching explanation in the lesson books, and the increase of the teacher's work owing to the revised agricultural text book. But apart from manual training the pupils would be better off if taught less and taught better. Grammar and geography might be curtailed, and advanced arithmetic omitted. Too much time is given to spelling, 17997-42, 17946-9, 17962, 18044, 18049, 18163-5.

DOTOL.

Believes that the present standard of literary instruction should be maintained, and that if any changes are made, there should be also changes to make the attendance more regular and to lengthen the school hours. Considering the irregular attendance, the present course of teaching is too extensive, and the readers should be simpler and shorter. Grammar and geography might be modified, grammar not being introduced until fourth class, and then grammar and geography being taken up in alternate courses. Book-keeping is not necessary for every boy's education, but is a very popular subject, 18311, 18248-55, 18394-5, 18373-83, 18412-4.

MACGOWLIN.

Time should be found for teaching drawing. Grammar and geography should be omitted in third class and the course considerably shortened for fourth and upwards. The grammar now required for 2nd fifth should be sufficient for 2nd sixth. Would like to see in the reading books lessons on sanitation and temperance, 18508-9, 18511-3.

SHEENET.

The extent of spelling required is too exacting at present. The course in arithmetic is too extensive in the senior classes. Mental arithmetic and higher mathematics should be a distinct subject, and receive a higher fee in the junior classes. Would begin grammar in the fourth class and in the sixth class. Would make it consist of analysis of sentences. The course in geography is too extensive. Would have outline maps, with the physical features shown, but no names, and would encourage map-drawing. Could have exercises in systematic memory training, and for the development of quickness of perception. In reading, a portion only of the book should be set

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apart for examination. The explanation now required will take up more time, but if the books were made easier it would not, 18532-42, 18531, 18532-48, 18572-5.

MORAN.

The present literary programme might be slightly curtailed, without any loss of efficiency. Deprecates the use of printed cards in theorems in arithmetic, which results in mere mechanical manipulation without explanation of principles, and thinks there should be, occasionally, oral examination by the inspector. By the abolition of the results system might secure a more intelligent teaching of the subject. The reading books might be varied, simplified, and better graded, and lessons on temperance, sanitation, the mechanical powers, &c., which would be of great advantage, introduced. A test in unseen reading might be tried with advantage. Grammar is not taught very well, being taught too much as lessons by heart. Grammar and reading might be combined. Boys in towns, instead of agriculture sometimes have book-keeping, sometimes extra branches, as geometry or algebra. It is a common practice to give home lessons to all the students in all the schools, the children learning at home, and being examined next morning by the teacher, 18621-9, 18714-20, 18728-30, 18930-73, 18825-36.

ROBERT BROWN.

The time of the pupils is more than fully occupied by the present programme, and explanation of reading, which is most useful, will necessitate the curtailment of some other subjects. Would curtail grammar, abolishing it nearly altogether in its present form, and confining it to simple analysis, the understanding of the meaning of sentences and the correction of vulgarisms. Would give less parsing. Would teach reading in a different way, but would require more time for it and simpler reading books. A test from unseen reading would be fair, provided it was not more difficult than the text-book. The agricultural text-book makes a second reader, and is useful for that purpose. Would save time which might be given to practical instruction, by teaching arithmetic in a more practical way, to ensure quickness and accuracy, and would explain the principles to a certain extent. The programme at present is not half literary enough to do the children good, but would include drawing and practical physics in a literary education. A good general education would include ability to read and understand what was read, a fair knowledge of commercial arithmetic and ability to keep accounts neatly and general intelligence. Would also have drawing from the first and to scale. Believes there is a necessity for a general training of the body also. Would have the programme easier and require it to be better known, 18832, 18829-64, 18874, 18883-90, 18937-57, 18977-81, 18998, 19038-34.

WARD.

The teaching of many subjects might be made more practical and interesting. The higher arithmetic should be made an extra subject. The reading books which have been used for years are far too difficult, and should be replaced by simpler books, of which there should be more than one set. The object to be kept in view in selecting them should be the teaching of reading not the giving of information. Explanation will require a great deal of time unless simpler books are provided. Would considerably modify the programme in arithmetic, geography, and grammar, and would make geometry, mensuration, and algebra far more simple than they are. Mensuration should become a separate subject. Is not certain whether any subject should be introduced in the time which

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would be thus gained, as both teachers and pupils are at present kept busier than they should be, 19042, 19066, 19072-3, 19143-9.

QUIN.

Parts of the programme might be curtailed. In grammar the parsing of the lessons in the first book should be sufficient until the children reach sixth class, and the inspector should be more restricted in his questions. In the alternative programme it was a mistake to exclude interest from arithmetic, but there are matters in the higher stages which might be reduced. The teaching of geography should be more easy and more practical, and should exclude the committing of lists to memory. The reading books are a little difficult and should be easier. The labour of reading is too much, and he would be inclined not to add much to the amount to be read. Is in favour of explanation, 19173-4, 19232-6, 19281-4.

MONRODUE BYRNE.

An hour might be taken off the present programme with safety, and devoted to handicraft. Would make a re-arrangement of the time and the subjects. Would make the programme in arithmetic, in which there is too much theory for the majority of the children, more practical but not enlarge it. Would make the reading instruction also more practical, and include in the books lessons on useful subjects. So many subjects should not be left, as "extras," optional with the teachers, 19222, 19370-81, 19405-10.

FORBES.

Would curtail all the subjects, largely eliminating the useless matter and making the course more practical. Has always taught explanation of the passages in reading, but could not pass one pupil by devoting all his time to this, if the inspector took the largest view of the new programme. Does not think the new programme is of value at all. Would omit the present grammar altogether, except as an extra, and introduce some practical grammar, which children of eight or ten could understand. It would be an advantage, and would not greatly increase the labour, to teach analysis of sentences with reading. Geography should be modified to omit the making up of lists. All arithmetic, except the simple and compound rules, reduction and practice, should be an extra. Expert calculation and mental arithmetic should be encouraged. If the programme were modified as suggested, and liberally given to group classes, would be able to teach drawing, elementary science, and manual instruction, and to do the literary work better than it is done, 19423-4, 19429-33, 19454-5, 19464-81, 19498, 19505-17, 19521-2.

MAGILL.

Would prefer to see the subjects diminished and the pupils brought up like experts in a few prominent branches, instead of having a moderate knowledge of a great number of subjects. The prominent subjects on which almost all are agreed are:—Penmanship, arithmetic, composition, grammar, and geography. A boy could not understand correct composition except he was a fair grammarian. The geography should bear upon the great highways of commerce, and not be crammed with minutiae about tides, lengths of rivers, and heights of mountains. Would not teach typewriting, but would teach shorthand, and possibly confine it to large towns and cities. In large schools would teach navigation, in rural districts measurement, and in large cities, French. The intellectual faculties should be developed to the utmost, and he would like calisthenics for the development of the

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MUSICAL. Domestic economy might with advantage be taught to girls, 19517-50, 19556, 19668, 19693-4, 19610-21, 19628-38, 19645-58.

BURNET.

Should be shortened and revised. Grammar and parsing should be shortened considerably. Objects to the quantity of obscure geography which is taught, and the practice of teaching heights of mountains, &c. Children should be taught to know the map. The advanced arithmetic which is taught is destructive of a knowledge of the common rules, 19670-3, 19719-32.

DEWAR.

Would curtail advanced arithmetic, and include elementary instruction in the arithmetic programmes, allowing teachers however, who preferred to do so, to retain geometry and mensuration as an extra subject. The children should be required to measure the playground, &c. In large schools, with an assistant for each division, he would continue grammar and geography, but in rural schools with only one teacher he would leave it optional and not ask the teacher to sub-divide the division. The teacher might take the whole school and teach geography as a special subject. Where there is not a sub-division of labour, however, you never can have effective work. Fiddle in arithmetic that questions in theory are carefully shunned by teachers and pupils, and to get them answered there should be a change in the mode of examination. The new rule as to explanation in reading will much more occupy the teachers' time. The reading books should be re-cast and made more interesting. Many of the boys leave school at eleven, and it becomes a question for teacher and manager what is the best education that can be given them. By keeping them to reading, writing, arithmetic and spelling, the elementary subjects, the boys would become more useful in them, 19858-60, 19876-7, 19883-9, 19897-903, 19909-16, 19937-66, 199973-81, 19988-91, 20003-4.

DALTON.

The course is not sufficiently practical. Does not see the use of grammar and geography in third and fourth classes, and would make them optional. Would however, have certain notions with regard to these subjects taught. Grammar, including analysis of sentences, might be taught in connection with reading and composition, geography in connection with geographical readers and topographical maps. Would postpone the book treatment of them to a later period. Would continue the study of formal arithmetic, but make optional the heavy portions of the programme in the senior classes, and include mensuration. Would encourage the theory of arithmetic by paying not merely for the results of sums, as at present, but for the method of working them. The children leave all left school at 13, so that the course for them must be carefully drawn. Reading, writing, and arithmetic are the fundamentals of education, but beyond those a good deal might be done to make the children observant and accurate, and to make them handy, 200040-3, 20006-8, 20094-100, 20108-4, 20139-61, 24191-3.

PASTOR.

Mental arithmetic, which should be continued in every class from first up, should be examined and paid for separately. Theory is not much taught. In the advanced stages it could be better taught through algebra. Mensuration should be included in the arithmetic programme. Could gain time by making the course in the higher classes easier. Grammar and geography might be made optional and taught in a different way without going into details. The merit

NATIONAL SCHOOL CURRICULUM—MODIFICATION OF—
continued.

grant, however, should be such as to encourage the teaching of them, and no highly trained or classed teacher should be allowed to omit them. The compulsory teaching of explanation of reading occupies more time, but has been most beneficial. Does not think new subjects will be successful if the teacher is not paid for them, 20287-301, 20323-3, 20544.

READE.

The more freedom left to the teacher, once you go beyond certain limits, in forming his course of instruction, the better. He should state beforehand, in outline, the course he proposed. Under the results system however, this latitude could not be allowed as it would be difficult to co-ordinate the programmes. In England there are four or five alternative programmes, in Saxony ten, while in Witten the teacher, with the approval of the Department, draws his own programmes. The smaller programme taken in schools with only one teacher should be part of the whole programme to be taken in large schools. A child should be taught reading, writing, and arithmetic, but beyond that he is to be trained. One teacher can teach grammar with advantage, another geography, another drawing; let them take up one or the three, but make none of the subjects compulsory. Would abolish many of the text-books, and teach more orally, training the children's powers of conversation and composition by requiring them to describe in regular complete sentences, objects and scientific experiments. The programme at present does not develop intelligence, 20337, 20361, 20373, 20381-8, 20400-6.

SPENCE.

Would curtail the advanced branches in literary education for the majority of the children and, instead of having girls—85 or 90 per cent. of whom go into factories and mills at from 11 to 14 years of age—wasting those time in advanced geography, grammar, and arithmetic, would, reason as they can read, write, and count sufficiently for practical purposes, devote them to practical training in how to keep a house, mending, how to cook and how to market, in a household economy, first side in case of illness, &c. The feeling which exists against sending children to schools for anything except a literary education would be overcome if this practical education were introduced in all schools. Children requiring the advanced literary branches could easily be selected and exemption might be claimed from the practical programme in certain cases, 20440, 20461, 20484-90.

BROWNE.

There is too much rote work, too little explanation, too little getting the pupil to find out the meaning of things for himself, and intelligence is not as well developed as it should be, largely owing to the character of the reading books hitherto used, which have been very difficult and hard to explain. The new books will be more interesting. Reading books should contain lessons on elementary science, history of the country, coast scenery, antiquities, &c., and lead the child up to the knowledge that every moderately educated person is supposed to have—including, of course, mathematical subjects. Tests in unseen reading are very desirable, and in the senior classes should always be adopted. School exercises directed to the general study of natural history would improve the children's powers of observation and reasoning and give useful material for composition afterwards. The whole school instruction might, to a certain extent, be grouped round what the children actually saw and knew; they might examine it, describe it, read and write about it, draw it, so that everything they did would be more or less of a practical nature. The course should not become less, but more literary than

NATIONAL SCHOOL CURRICULUM.—MODIFICATION OF—
continued.

it is, but something should be done to make the children bready and smart. It should be the endeavour to give every boy and girl a sufficient education to enable them to turn to any walk in life, 20630-2, 20694-7, 20749-64, 20791-4.

EARDLEY.

Would carry on hand and eye training without a break from Kindergarten, by drawing, with practical geometry and measurement, and science teaching with experiments and the making of apparatus. In grammar, which should be optional, would limit the teaching in the junior classes to noun, adjective, and verb, and in the higher classes to concord and syntax. In geography, which should also be optional, would also modify the details of the programme. It would be desirable to have measurement a separate subject, and to give a fee for it, 20827, 20941-4, 20983-6.

CARSON.

Thinks of dispensing with home lessons. Would introduce type-writing and mental arithmetic. Grammar is too much taught by analysis, and not enough by synthesis. Geography should be taught from the school-house, and should include physical descriptive geography. The children should be acquainted with the climatic and governmental conditions and the products of the various countries of the world. Where there is time before or after school hours, would introduce Latin and French, and thinks it unfair that the child has to pay a fee of 2s before being taught those subjects. Would educate the teachers more, so that they may educate the scholars more—meaning by educate, teaching them to think and act right; and would do that as far as possible by object lessons, by cultivating their powers of observation upon things about them. The eye, the ear, the touch, and the observation should be called out at every exercise. The instruction should be given by the ordinary teacher, but he would be in favour of specialists teaching special subjects if there was time for it, 20983, 21004, 21003-14.

M'KENNA.

It should be imperative in all schools that a simple letter should be written, and a plain account made out by every child in third and fourth, and even in second class, 21095-6.

NEEDLEWORK.

SHEFFINGTON.

In second and third classes half an hour, and in the upper classes an hour, would be enough for it, 14510-6. There is not so much difficulty as formerly in providing material, 14512.

T. J. ALKANDER.

Refers to importance of subject. Objects to sewing, knitting, and cutting-out being included in the one mark, the result being at present to make cutting-out practically worthless. For teachers a higher percentage should be required, 15171-3.

SEITH.

Programmes of, should be altered to include higher kinds, and for the improvement of knitting, and should be paid for by a higher fee. Is greatly stimulated by local exhibitions, and would be aided by local committees. A man can judge it almost as well as a woman, 15253, 15337-41.

NATIONAL SCHOOL CURRICULUM.—MODIFICATION OF—
continued.

ROMAN.

Measurement should be taught practically as a separate subject. Household management should be taught to the girls in the sixth class. Arithmetic should be taught in a more practical manner, and would require half the time and half the attention if the examination questions were framed in a more practical way. Would not ask the children to understand circulating decimals. Would teach higher arithmetic as an extra subject. Would have grammar as Father M'Kenna explained it, but does not believe in asking boys to parse puzzles. Would make the course easier, and make the programme for second fifth do for second sixth. Geography would be made more interesting and useful by teaching it practically with maps, geographical readers, and lessons in the lesson books, and by omitting areas, populations, heights, &c. There is too much done in reading. The third year course in algebra is so difficult as to be prohibitive. Would cultivate intelligence in everything. Would not say the National system tends to crush the child's intelligence, in most schools a foundation is laid which causes the child to seek to educate itself, 21129-32, 21163, 21190, 21205-11.

PATTERSON.

The adding of advanced disarming to sewing machine, which is a very practical thing in Derry, caused the latter to be dropped. Algebra and Euclid might be reduced considerably, and it would not be much disadvantage if they were disallowed in the first fifth and something more practical taken up instead. The metric and decimal systems might in some slight way be introduced in the junior classes, and compound rules be largely done away with. Practical measurement should be made a separate subject, and if advanced arithmetic is wanted the square root should be added. The difficult phrases in the reading books are very objectionable, but there are more objectionable things in other books which he has examined, and, therefore, until something better is got, the Board's books are the best. The books should be illustrated by diagrams, and it would be an advantage to include lessons in science, health, cleanliness, &c., and each school should have a small museum, which would be useful for explanation. Would reduce the courses in grammar and geography, and make them more practical. Book-keeping is very useful in town schools if well and practically taught. Order and cleanliness should be amongst the first things attended to, 21234-45, 21289, 21321.

MOST REV. DR. O'DWYER.

There is nothing in a boy's life corresponding to needlework in a girl's; a woman who could not sew would be considered a fool, a man who could not put a leg on a table would not be considered a fool. Is taught in the schools for its practical utility and not for intellectual training, 16573-4, 16577-8.

COURTENAY CLARKE.

Three hours a week would be quite sufficient, 17466-7.

WESLEY.

The results on the whole are good, but an hour per week, at least, might be saved from it without any serious disadvantage. Is more valuable for developing intelligence than grammar. Any work done in the schools the ordinary Inspector is quite competent to judge, but the employment of lady instructors who would advise the teachers, would be useful, 17592-3, 17628-63, 17706-11.

APPENDIX E. NEEDLEWORK—continued.

CHYAN.

Is of practical use, making the girls, if they work neatly, clearwax, careful, and neat, 18116-7.

MORAN.

The results of the teaching are very poor in Belfast, but in most of the other towns in the district it is fairly taught. There is very great difficulty in providing materials in the rural districts, and some difficulty in the town schools where the parents are not well-to-do. An arrangement might be made by which the managers, being compensated by the National Board, might provide the materials. Thinks three hours weekly would be sufficient to devote to it, 18572-8, 18794-600, 18813-25.

WARD.

Never heard that it made girls more intelligent, and believes they would acquire a knowledge of the literary programme just as well without it. Does not know that the girls who devote five hours weekly to needlework are more backward in the literary programme than boys who do not, but it is generally admitted that up to 13 or 14 girls are more intelligent than boys. Needlework gives them some notion of accuracy and neatness which the boys don't have, and it is necessary for them to know something about it, 19062, 19132-8.

QUINN.

Is carried on very well, but there is rather much time given to it. If it were well done, three hours would be sufficient. The people will not bring things to mend. Tried shirt-making once, but the girls did not seem to care for it. Should be given with the children under the control of the ordinary teacher, 19174, 19273-4.

MARILL.

Would approve of plain sewing, but would confine it to less than three hours weekly, because it can be learnt afterwards, 19556-66.

STEELE.

There is too much fancy work done. Would not object to the five hours which are given, if the work was made more practically useful, 20441-4.

BROWN.

The accuracy the girls derive from it gives them a superior feeling of exactness and makes them more accurate in all their subsequent work. Too much time is spent on it however, and there is great difficulty in getting materials and in getting children to keep up their attention. An hour at a time is little enough for it, but three hours in the week is quite sufficient, 20644, 20664, 20795.

EARDLEY.

Cannot say it is well taught, as the children seldom or never bring garments to repair. They don't like bringing anything except new material. Has rarely found a fifth or sixth class girl wearing a dress made by herself, and the reason is they think they would not be sufficiently fashionable. They would make for their younger sisters readily enough, 20653, 20635-40.

M'KENNAN.

It would be advisable to diminish the time to three hours weekly, and to apply the two hours thus gained to the other forms of practical instruction. Would

NEEDLEWORK—continued.

not teach the children trades, but only to use their hands in such a way that when they went to the factory they could apply themselves with greater skill and dexterity, 21088, 21078.

PATTERSON.

The time for it might be curtailed so as to give two or three hours for some useful practical work, 21233.

M'C. MURRAY.

Considers that in Standard 6 less than three hours might be given to needlework. Agrees with the opinions of Sir Joshua Fitch, quoted, as to the time wasted at needlework, 22191-8.

SOSUGAL.

In the Leith schools two and a half to three hours is the average time given per week to needlework, which is excellent in quality. No deterioration of the work has resulted as a consequence of cutting down the time. The schools being large, holding from 600 to 1,800 children, have each a special instructor in needlework, 22544-8.

MISS SKERVINGTON.

The Code minutely details the needlework expected from the girls, from the infant department to ex 6th Standard. Would prefer four hours, but considers that three hours is sufficient in the week for the subject. In Edinburgh very good results are produced with that amount of time. Mending and darning should be given a greater proportion of time than at present. The system of examination requires each child to do little specimens of work before the inspector, which encourages the teachers to spend the time in making the children expert in such exercises. Advocates more elasticity in the requirements of the Code. Mentions difficulties in getting children to bring their own clothing to mend in school. An initial grant of £5 per 100 girls is given by the School Board to supply materials when a school starts. The Government grant is 1s. per girl if the inspector reports the work as good, 6d. if indifferent. All the garments made are sold, and have a ready sale. The system of the examination means added expense on account of material wasted in working at specimens. The cost to the School Board of materials per girl for the last two years was one penny. Describes how the examination is conducted, 22577-88. The work suffers from the teaching being carried on with a view to the examination. The Department should accept the various schemes presented by the schools, reserving the right of deciding as to their sufficiency. While the appointment of lady inspectors would be desirable, the present inspectors have wide experience and efficiency, 22894-8 22901-3. Agrees with Sir Joshua Fitch that the ten hours per week spent at needlework instruction in the Irish schools is a waste of time, and that the object in making garments should not be the turning out of something of commercial value, but a useful means to an end that falls strictly within educational lines, 22923-31.

MISS PATTERSON.

The Glasgow School Board supplies the materials for the needlework instruction, and as a rule the pupils purchase the articles they make. The grant is 1s. per head on the average attendance, 23221-3, 23333-7. The time given to needlework is about four hours per week, 23364. Considers this provision quite sufficient, 23397-403.

NEEDLEWORK—continued.

TERRAN.

In the training colleges the only subjects of practical instruction given to women are needlework and drawing. Suggests numerous reforms and extension of course of training, 25082.

DOHERTY.

In his opinion too much time is given to needlework at present. Would give about three hours a week. Agrees with opinion of Sir Joshua Fitch, as quoted, as to waste of time upon more mechanical work, which is used rather as a means of employment than an educational medium, 24318-20.

PEYTON.

Would not like to suggest a reduction in the five hours per week instruction in needlework. From three to four hours ought to be quite enough. The materials used should serve as subject matter for the demonstration instruction and object lessons, 24783-8. Describes a demonstration lesson, 24842-51.

HAMILTON.

Thinks dressmaking should constitute part of the needlework programme, not as an industry, but as part of a girl's education, 24963-7. Would substitute cookery for one of the afternoon needlework classes in the week, 24371-4. The industrial scheme is not carried out to its basis. Gives particulars of the course carried out, 24986-7.

TRYHAM.

Is Organizing Secretary of the Diocesan Board of Education of the Irish Church. Puts in an abstract of replies of the Church managers of the diocese to a list of queries issued by the Board. Gives summary of replies to queries—"Are there any special steps taken to encourage proficiency in needlework?" 25035-

OBJECT LESSONS.

BROTHER THOMAS.

The teachers are obliged to give in the training schools, object lessons on some of the natural and physical sciences, 24274-5, 24314-6. Illustrates the use of object lessons by an example in agriculture, 24280-1, and describes the practice in object lessons in the College, 24315-6. Should follow a definite course of subjects, 24347-50.

SHEPPINGTON.

Should be given all through the classes from infants up.

LORD MONTAGUE.

The objects should be present and the children encouraged to observe them. A useful result of an object-lesson would be to encourage children to make collection of grasses, &c., 24690, 24738-43.

MORAN.

In the Belfast infant schools object lessons are insisted on. They might be usefully extended to the higher classes, 24789-93.

BERRY.

Are very useful and a very great aid to composition, 24794-5.

NEEDLEWORK—continued.

45, "Should needlework be essential for a pass?" 25068. Considers that the old programme in needlework was too simple, but that the alternative programme demands a disproportionate time, 25091.

MARAFFY.

The present standard is not high enough, and the instruction is given in a slovenly manner. Would have two standards, one for poor and weak schools, the second bearing special fees for advanced needlework. Strongly urges the appointment of lady inspectors of needlework, and that the subject be examined on a day other than that appointed for the general examination in literary subjects, 25004-16, 25227-30, 25315-20. The inspectors for cookery and laundry work might serve also as the inspectors of needlework mentioned, 25238-32. Rejects the alternative scheme as proposing too much time for needlework instruction. Believes a higher standard than at present obtains can be reached, if the present time be properly utilized. A great improvement has been effected by making needlework an essential qualification for mistresses. In three hours a week, with efficient instruction, the present programme should easily be covered. The programme should not stop there, but should include, in the higher standard proposed, some special branches of needlework now set out in the alternative scheme. Does not think the organizing instructions constitute an adequate substitute for his proposed staff of lady inspectors, 25243-44. Considers the failure of the industrial scheme was due to its being too elaborate and requiring too much time. Would advocate nevertheless advanced needlework instruction in the ordinary course, 25303-10.

STONNER.

Would be in favour of appointing expert inspectors to examine in needlework and other subjects of practical instruction, 25809-10. It will take a male inspector five years' inspection to distinguish between good and bad needlework, 25832-3.

DOHERTY.

Would like to see object lessons introduced into all National schools as a compulsory course for boys and girls, 24178. By "object lessons" means what was formerly known as "history of common things," 24349, 24397.

PEYTON.

Object lessons should be compulsory in all schools. Distinguishes between object lessons on simple objects and the advanced course in elementary science. One object lesson per week should be the minimum for all pupils, 24746-57. One of the great advantages of these lessons would be the opportunity they afford of exercises in composition, 24758. Agriculture in the fourth class should be based upon object lessons on flowers, vegetation, &c., if this were done the subject might be extended to girls' schools, 24774-8. Gives particulars of what the lessons should consist of, 24832-3. Would extend the subject beyond what was formerly known as "History of common things" to elementary science, 24843. Agrees that object lessons, notwithstanding the distinction of the English Education Department, as quoted, should be considered the first step towards instruction in natural science, 24937-8.

See also SCIENCE INSTRUCTION.

APPENDIX E.
IV

READING.

SKEFFINGTON.

In the sixth class, is very fair. Is really to understand the sense of what is read. Reading out for the benefit of a listener is a different matter, and they may be taught that in various degrees, 14480-2.

POWELL.

The instruction in the reading books is very important, and the inclusion of lessons on home duties and other useful subjects would be beneficial, 13148-50.

E. J. MURRAY.

The books should be divided into lessons on descriptive geography, natural history, science, and other subjects, 15398-403.

GAMBLE.

The books are not suitable to the children's ages. The fifth and sixth books should be divided into two parts. Would like a wide selection of books, those selected by local parties being sold at the same price as the Commissioners' own. A fair test would be for a boy to read a newspaper and understand it, 15638-47, 15678-81.

G. BATHMAN.

Would like domestic economy readers bearing on cookery and handy work and other important subjects in a girl's education. There are a few such books at present, but they are not introduced until the sixth class, and then only in the industrial programme. They should be optional. Would like also books containing lessons on science, 15954-6, 16050-4, 16090-1.

W. B. JOYCE.

It would be fair to confine the boys to specified reading books if they were interesting, but the boys absolutely abhor the present books. The science

lessons in the books of the Board forty years ago contained some very silly things. The terminology was too difficult for children, and the teachers then were not so well trained in science as they are at present. A good test of reading powers would be to read an unseen passage, 16240-1, 16308-10.

ARCHDEACON HAMILTON.

There should be more time for explanation, the books might be more interesting, and by them the pupils might be taught grammar and composition. Prefer that the children should read badly, and understand what they read, than that they should read well and not understand it. Geography is of great importance for the purpose of increasing the interest in reading, 16760-4, 16768-74, 16780, 16795-503.

OBYAN.

The new rule as to explanation means a serious increase in the teacher's work, but the old system was very bad. The books should be shorter and easier, as the English readers are, and more suited for young people, 17943-9, 18046-8, 18085-100.

BEAULT.

A pass mark is given if the boy is able to decipher the words. The children cannot be followed in their reading and contrast greatly with English boys who attend to intonation and expression. Would be in favour of making distinctions necessary for a mark. The fact that classes go on side by side, and that it is not convenient that the reading of one class should be heard in the next may to some extent account for the children not speaking out. Does not see how reading could be properly taught under such circumstances, 20364-7, 20391-3, 20411-3.

R. J. CLARKE.

The children read well, and can be heard distinctly, sometimes over the whole room, 20540.

RESULTS FEES SYSTEM.

BURREL.

The Irish teacher, compared with the teachers of England and Scotland, who have their salaries secured to them, is at a disadvantage, only part of his salary being secured, and the remainder being dependent upon results. Until a programme is arranged which will enable him to undertake drawing and manual instruction with security to his temporal interests, he will not enter warmly on the teaching, 15039, 15065.

POWELL.

There is a temptation to teachers to teach a subject because it is remunerative, and because the fees can be easily obtained.

T. J. ALEXANDER.

Individual examination is necessary in reading, writing, spelling, and arithmetic, but the other subjects might be examined by class, 15158, 15251-2. The examination for results should be confined to those who had made 100 or more attendances, but the introduction of class examination in certain subjects would so lighten the inspector's labours that they could examine the other pupils on other occasions, 15253-5.

DENNERY.

Would abolish it, as it reflects the intelligent in favour of the dull boy, and is demoralising in its effects on the teacher by tempting him to make false entries in the roll. If a certain proportion of pupils pass, the grant should be paid for all. The grant should depend on the teacher's manner of imparting knowledge, and might be made on a reduced scale for the pupils who did not make the minimum attendance, or on the average attendance of all. Examination should be by class, but the best plan is the English mode of inspection. The Irish inspectors, except for the annual examination, visit the school only to see if the roll is properly entered. They do not—Dr. Alexander however being an exception—observe the methods of teaching, 15466-77, 15551-3.

GAMBLE.

Is inimical to true education, 15396, 15717. The programme contains a good many things which are useless for nine-tenths of the children, but money is paid for teaching them. The system assumes that every child has an equal proportion of brain, will make an equal number of attendances, and is equally placed as regards worldly affairs. The result is the neglect of the quick child, who becomes lazy and

RESULTS FREE SYSTEM—continued.

without self-reliance. Were it not for the system, children would be encouraged in the subjects in which they excel, 15724-5.

W. B. JOTCH.

Does not exist in any other country, and produces bad effects. By it the teachers are cramped and confined, and left to no initiative of their own. It would need a radical revolution to raise the teaching to something of life: it is as bad as it could be in many of its forms, 16185, 16294-5.

DURKEIT.

Tends to crush, the boys being taught the book word for word, without knowing the meaning of what they learn. Under it the clever boys are neglected, and all the attention is paid to the dull boys. The boys show a want of reasoning power. The individual results examination might be done away with, and the English or Scotch system introduced, 16313-9, 16331, 16362-5.

BRIDGEMAN.

The system preceding the present one was an intellectual and far superior system, and had elasticity in it. The present system is one of cram under which the child may be injured, 16454-8. Under the old system both pupils and teachers were better mathematicians, 16470.

Moor Rev. Dr. O'DWYER.

Is a very inferior system. One of its great defects is its absolute uniformity all over the country, very little initiative being left to the teachers. Should adapt itself to the wants of the different districts, 16533, 16545, 16551. It is not sufficient for an inspector to examine what is done in a school and report upon it, he ought to take the part of head master in his district, cutting out the work for the teachers and advising them as to the teaching of the pupils. This being so, he ought to have an absolutely thorough knowledge of everything that is taught in the schools. As a rule, though here and there there are exceptions, the inspectors do not know agriculture well, and the result is they stand or fall by the textbook, and that is the whole system of examination going on in the schools. The subjects of examination for inspectors should be so selected as to assure that they are competent to do the work. In girls' schools an experiment might be made with female inspectors for the purpose of advancing industrial training. A male inspector cannot, but a competent woman would, know enough to be able to guide and encourage the teachers in needlework and other subjects. A few female inspectors might be tried for every subject in the school. When a new subject is being introduced it would be desirable to have organizers sent round to advise the teachers, but with the ordinary permanent programme it would be most desirable to have only one set of inspectors. There might, however, be an expert inspector in music, perhaps also in drawing, but not in science, 16533-4, 16539, 16553-6, 16591-4, 16673-4, 16678-84.

DRIELAND.

Is only suited to schools where education is compulsory. The teacher should not be punished because he cannot give the same amount of knowledge to a boy who only attends 100 days as to a boy who attends 200. Has formed no opinion as to how the system may be improved, 16815, 16818-21.

LYNCH.

Is not fair either to the teacher or the pupils. All the children on the school roll, including those who

RESULTS FREE SYSTEM—continued.

have not made the minimum attendance, should be examined individually, but the class should be taken as the result. The minimum number of days for attendance should be reduced to sixty, and the programme of examination modified so as to make it less difficult for the children making small attendance. The inspectors should confine themselves to the books, and no inspector should be permitted to examine until trained in the work of examining. The system, however, is a capital one for reporting information, and for fitting children for the battle of life, 17127-42, 17170-8, 17202-15, 17234-5, 17243-7.

FERNS.

Is only a temporary expedient. Is a rough and ready plan for testing the work done, but would prefer an examination of the school to an examination of the children. Would not depend on a single inspector only, but would send one on the back of another, 17265-6.

COURTENAY CLARKE.

Owing to the system, the inspector is too much an examiner and not the help he might be to the teacher. Prefers the system of inspection in existence formerly, and class examination of all the pupils on the rolls, 17474-5, 17482-91.

WELSH.

Is not such a bad system as has been stated, but improvements might be made, 17568. The teacher knows when the inspector will come for the annual examination, but not when his other visits will be made. This enables the inspector to see if the schools are kept clean and in what state the children are sent. In the latter some improvement is desirable, 17576-8.

CREAN.

Is a very bad system. Individual examination should be retained in reading, writing, and arithmetic, but not in other subjects. In drawing, the inspector to see the teacher teach and then to see the work done by the boys would be a good system. Payment for the teacher's work should be made by the class and not the individual. Order and discipline which are very valuable to boys should be taken into account in the results. Only those who make 100 attendances should be examined, but those who make 100 attendances in two years should be examined in the second year. The manager's and inspector's opinions of the teacher are based on the money he makes, but if the results system were modified the teacher would be able to give his pupils a more satisfactory education. The object of all teachers is to teach the minimum which will secure a pass, 17590, 17596-93, 18022-5, 18034-5, 18060-1, 18160-1, 18166-8.

FERRAS.

Causes too much pressure upon the children, 18224-5.

DOYLE.

Does not join in the very general condemnation of the system. With longer hours, more days, and some slight modification of the programme the teachers could carry it out, 18247. In the examinations more time should be given to the children, and there should be a difference in payment to the teacher between a No. 1 and a No. 2 pass, 18246-52.

MACLOGHLEN.

The ordinary inspectors, and not experts, are the proper persons to examine in manual training. Inspectors have too much to do while examining a

APPENDIX E. BRITISH FREE SYSTEM—continued.

school to afford time for the discussion of educational matters with the teachers who have no means of becoming acquainted with contemporary educational movements in other countries, 1844-5, 1845-6.

SWINNEY.

Is a very pernicious system because: (1) it is a system of cram, (2) under it both clever and dull boys progress at the same rate, attention being given to the latter if they have made the necessary attendance, and not to the former; (3) under it success in dealing with neglected capacity meets with little recognition as compared with success in passing a high percentage of scholars; (4) the profession of teacher is degraded by its appeals to the desire of gain; (5) it does not encourage the teacher to forward the higher moral and intellectual training of the pupil; and (6) it degrades all individuality in the pupil and deprives him of mental shrewdness. One of its evil effects is that the inspector, as a rule, does not wish to examine in extra subjects seeing that he is at high pressure with the ordinary work. But for the system the teacher could make the lessons more interesting, 18512, 18527, 18577-8, 18591-605.

MORAN.

Payment should be made for the value of a school as a whole—including discipline—and there should be more class, instead of individual, examinations. All the children on the rolls should be examined. Thinks that something intermediate between the present system and the system which preceded it would be desirable, but there should be a more searching examination than under the old system, 18535-34.

BROWN.

Has been the same, to a great extent, of the children learning things by heart and not being taught sufficiently how to think. Would abolish individual in favour of class examination, and have the inspector give more attention to the method of instruction, and would pay for all, if a fair percentage of the children passed. Would allow the teacher, under regulations, to classify the children. Under the system which preceded the results system the teacher had too free a hand as regards classification, but on the whole he would prefer the former system. As far as possible all the pupils on the rolls should be examined. Would be afraid of graded schools until something is done to ensure uniformity amongst the inspectors, 18561, 18595-19011.

WARD.

Does not approve of it as at present carried out. Would have class examination, but would not examine all the children on the roll. Would modify the programme which keeps both children and teachers busy that they should be, 19047-8, 19073-3, 19145-9.

QUIN.

Could be made, after the first stage of sixth class, a test of what a boy is fit for and a guide to the parents, 19285.

MORRISON BYRNE.

Has improved the standard of education and been, on the whole, a great benefit to the country, but it is capable of improvements. It has led to a march to a system of cram of memory, has not given sufficient room for the development of the intellectual faculties, and has put the children too much on a dead level, clever boys being obliged to go at the same jog-trot as stupid boys, and consequently not doing a particle of work at home, 19298-300.

RESULTS FREE SYSTEM—continued.

FOSTER.

Has an average attendance of 65, divided into nine classes; has no assistant, and though he takes from 8.30 till 4 can only pick out the parts of the programme which will be most useful on examination day and leave the rest undone. The programme at present is that the inspectors never ask questions as to the method of instruction. The teacher's whole energies are directed to the study of the inspector's methods. The part of a subject which carries a fee is always the most important, but if instruction were confined to what carries a fee the school would not be well conducted. The grant would not be affected, however, by not touching the sub-heads, 19435-9, 19482-3, 19501, 19518-20.

MAGILL.

Should have two grades of payment, the present payment for a mere pass and an extra payment to stimulate teachers to pay extra attention to boys of extra ability. As regards the examination of all the pupils, he would not like those who attend well to think that the children who attend badly had a right to the same favour. Thinks the system of individual examination has not yet been sufficiently tested. If half a class answered well, however, it would fairly justify the conclusion that the other half would answer in like manner. Fears that payment on the average attendance of pupils might result in not very good teaching. Thinks the system has not failed, and that it has been very advantageous, 19572, 19577-91, 19626-7.

DEWAR.

Is inclined to have individual examination in the more important subjects. It would be a good thing to have individual examination in the higher classes, and only class examination in the lower. Would divide the schools into good, fair, and perhaps middling. Would only examine the good schools every three years, and would allow them to teach whatever subjects they liked. Would allow second-class schools to confine themselves to one or two subjects, but would insist on the lowest class schools confining themselves to the elements of education. Would have a common programme however. Even the lowest grade of schools might teach a couple of optional subjects, say drawing and singing. The effect of the present system is that the dull boys have probably got more teaching, while the clever boys when up to the mark have not been hurried on to the higher class. The latter might have got on better under the old system, 19683-7, 19691-94.

DALTON.

The inspector gives attention to results rather than to methods. He has very often nothing else before him, but owing to the enormous amount of work he has to do in making individual examinations, he could not pay much attention to methods. The teacher, notwithstanding even the Commissioners' reprimands, will insist on taking the time that will arrive at results with the least expenditure of effort. The ordinary subjects might be taught more practically if there was a change in the method of examination. Would retain the right of individual examination for cases where there is doubt, but would not employ it in every school. In arriving at his judgment of a class as a whole would like to examine individually a number of pupils. The instruction in the Code that individual examination of infants may be dispensed with, does not give relief, the Commissioners insisting on individual marking, 19758-68, 19918-35.

FERGUS.

The nature of the questions on the inspectors' cards is pretty well known to the teachers, and it

RESULTS FREE SYSTEM.—continued.

would be quite possible for them to have the actual contents of most of them if they questioned the pupils. The present method of examination tends to lay stress on results rather than on the methods of teaching. In large schools individual examination of the pupils is not required, the class might be judged from a few. All the pupils should be examined, and the whole class should be paid for, including those who have not made the maximum number of attendances, provided they are fairly instructed. The clever children require very little teaching for the examination, and are not allowed to advance, and the teacher gives most attention to the stupid boys. It nearly always happens that the child who fails is the one who has given the teacher most trouble. Class examination should aim at encouraging successful teaching and discouraging cramming. A school with a reputation for excellence need not be examined every year; incidental visits would be sufficient. A badly-conducted school should not be allowed to teach extra subjects except singing and drawing. The best way of seeing how the teaching is done is by visits without notice. Would like to see a grant given for discipline, 20890-2, 20936-12, 20936-33, 20938-54.

BRATY.

The necessity for individual examination has passed away. Circumstances have changed, a far larger number of the teachers are trained, and have acquired proper methods, and therefore may be allowed more liberty, and to return to a system of teaching proper and not preparing for examinations. Does not think it desirable to retain individual examination in reading, writing, and arithmetic, though there is something to be said for it. The present system draws attention to the results rather than methods of teaching, 20937, 20938-3, 20939.

BROOKE.

Is not in favour of the abolition of individual examination, though in some cases it does lead to cramming, his objection being that class examination will either be a superficial one or an individual one, with a general estimate formed to the mind of the examiner. The individual examination is valuable for satisfying the managers, parents and pupils. Class examination, however, would be a great loss to the inspector where the classes are large. The present system of examination passes over no pupil and no subject, under the old system it was in many cases very slanted. A worst point as something of that kind might be given for discipline and order in the schools. Has known teachers who neglected their work in the early part of the year and put on extra pressure towards the end; the majority, however, attend to their work all through. Would approve of the system of inspection and examination, which would afford more opportunities of seeing the working of the school. One of the disadvantages of the present system is that the inspector's questions become known. Is afraid that teachers will not teach subjects unless they are paid for them specially. If the teachers, as they should, held systematic and periodic examinations of their pupils it would reduce the necessity for an annual examination. Attention should be paid to the teachers' methods at a different time from the examination. This would imply more, but not much, increase of the inspection staff, but by slightly reducing the programme, combining the subheads, striking off the separate examination in agriculture, and a few other modifications, the work would be shortened. Would approve of a leaving certificate for the children. The present methods of examination tend, to a certain extent, to prevent the inspector giving sufficient attention to methods of teaching, but every judicious examiner tries, even by his examination, to indicate in what way subjects should be taught. In addition to ex-

RESULTS FREE SYSTEM.—continued.

amining writing, he watches and draws the teachers' attention to the method, and if it is very bad mentions it in his report, but the results free are not affected thereby. Does not limit the children strictly to time in arithmetic, as the consideration of speed does not affect the pace made, but in first class he is able to test and modify the children's methods of doing sums, 20895-93, 20977-88, 20970-7, 20953-48, 20965-88, 20976-7.

BARDLEY.

It is by incidental visits principally that one can judge of the discipline, tone, and methods of a school, and the present system leaves too little time for inspection proper. Class examination should be substituted for individual in some subjects. Would persevere with individual examination in schools that are not doing well, but in schools that have been well conducted for a number of years there might be no examination for three years, and only incidental visits. The results examinations are most popular with children, parents, and good teachers, and are good for the schools by their appeal to the children's harmless ambitions. If a teacher turns out good results it practically follows that his methods must be good. Many things must be learnt by rote, and the experienced examiner has to distinguish where what is legitimate ends and the improper begins, 20971-82.

CARMICHAEL.

If an inspector visited the school and gave the children ten minutes to look over a lesson they had never seen before and then examined them upon it it would have a very beneficial effect upon the children, and enable the inspector to see whether they were overworked or taught. Thinks it unfair that no results fees are given for kindergarten, sewing, fresh-air dancing, and theory of music if the child fails in reading. Would pay every teacher well for everything he taught and would see that he taught it well. The payments by results should be equalised, 20889-90.

BOWEN.

The system is one of the greatest evils in connection with Irish education, and unfair to both teacher and pupil. The teachers are constantly driving the dull pupil at the expense of the bright pupil. It is not that the teachers look to the money results, but that their standard as teachers is judged by the number of passes. Some reward should be given for order, cleanliness, and general efficiency in a school. So long as the examination is mechanical the system of examining by cards in arithmetic is the fairest, but if the mode of examining were modified so as to have more inspection and less mere examination, it would be better, 21136-43, 21176-8, 21193-201.

DOHERTY.

Inspection should be substituted for the results free system in examining manual instruction, 24185. In the case of all the subjects of practical instruction enumerated strongly recommends examination by inspection, the important matter in these subjects being, not the amount of information obtained, but the mode of gaining the information, which is best determined by inspection, 24192. In the case of gardening would prefer inspection, 24199-202. The same would apply to science subjects, 24207-8. The results free system gave a vast impetus to cramming, and did much good when introduced. Agrees that it has outlived its use, at least as regards all subjects of practical instruction, 24207-75. The substitution of teaching colleges has improved the standard of teaching, but the system of class examination formerly existing was to be preferred to the present, 24278-84.

RESULTS FEE SYSTEM—continued.

THURHAM.

For the introduction of manual instruction the results fee system should be modified, 25087. The system has been injurious to both teachers and pupils, 25095, 25105-6. Would substitute class examination, 25107-9. It has served its purpose and had its day. It raised the teaching from a very low level to a fairly satisfactory one. The inspection which should supersede it should deal more with the supervision of the teachers in the act of teaching, with the general order, neatness, tone of the school, and the time-table and management of the school generally, 25132-53.

MURPHY.

Explains the benefits and shortcomings of the Results Fee System, 25222-4. The class examination which preceded it was more educational. The system would work fairly well by sampling classes. A good deal of abuse arises from teachers taking up extra subjects, some from a desire to earn extra fees, some because neighbouring schools have a number of extra branches. The number of extras permitted should be limited to two, 25263-75. While the Results System did a vast amount of good, a class examination with inspection of the work of the school should be of higher educational value, 25311-4.

MACGERANES.

Was inspector of schools from 1850 to 1891. Prior to the introduction of the Results Fee System in 1874, there was an overwhelming number of children in the junior classes, and very few in the senior, the promotion of pupils being left very much to the teachers. The system brought about an important change in this respect. It also acted as an incentive to teachers to extend their own knowledge. But it was impossible for the inspectors to pay occasional visits, all their time being occupied in filling up re-

RESULTS FEE SYSTEM—continued.

turns, examining every child, and calculating percentages. Would advocate its being replaced by class and sample examination as suggested, 25327-408.

KINGSMILL MOORE.

One of the evils of the system is that it is a physical impossibility for the inspectors to be in touch with the work of the training colleges and the schools, 25479-83. The condition obtaining in the training colleges that the students must pass in all the compulsory subjects is an element of the system which reacts unfavourably against the colleges, 25486-6. Another element of the system is the condition that the training colleges do not receive the bonus of £14 or £30 paid on past students unless they fulfil all the tests of the Board and have taught satisfactorily for two years. Admits that the bonus may be comprised, allowance being made for the fair average percentage of failures, 25508-18.

PUNTER.

The distinction observed between No. 1 pass and No. 2 pass in connection with the results fees examination is a valuable index of the efficiency of the schools; but the *status* published by the Board, in making no distinction between these two passes, are valueless, 25746-71.

BROOKER.

The teacher should receive a fixed salary. The system existed out in England, and applied in the case of convent schools in Ireland, works better than that of payment on passes. Would approve of the special grant for general organisation and tone of the school, as awarded in England, 25811-31. An inspector can learn quite as well the state of the school from class examinations as from individual marking. The former would be a great economy of time. Classification for the teachers should depend on their work as shown in the schools, 25872-81, 25896-9.

SCHOOL ATTENDANCE

LAWLER.

Varies from 30 to 80 in his school which has 106 on the roll. The low attendance is due to the pupils being engaged in farm work, 14465, 14474. The children in the district of 10 or more have to do about six hours agricultural work daily at home, 14620-2. That practice is pretty general in the South of Ireland, 14633.

DERMOT.

Should be compulsory, 15470. The minimum attendance is insufficient, and in rural districts the children are absent so much that the teachers have often to work double the minimum time in order to bring them up to the standard. An attractive programme might bring in the children better, but force is the only remedy for the recalcitrant or indifferent parent, 15520-63.

ARCHERBURN HAMILTON.

Is very good in Ireland. The roll should be called at ten, or a quarter past ten, 16785-94.

DUNLAW.

Should be compulsory, but in country districts only for 100 days yearly, the grown-up boys, however, after going to work, being brought to evening schools, 16817.

CREAN.

At certain seasons a proportion of the pupils are employed at farm work, and do not attend school, with the result that the teacher cannot give his time to those who attend regularly, but must give it to those who attend badly, in order to bring them up to the level of the programme. It frequently happens that he has to teach a subject two or three times on this account. A good many pupils don't make 100 attendance, and cannot be examined. Attendance should be compulsory, 17934, 17943-5.

DOLAN.

In rural districts it is very irregular, 1,039 out of 1,496 schools, or 70 per cent., having only one teacher each, who has to instruct nine or ten classes. There may, however, be masters in those schools. If the schools were not so close to each other they would draw from larger areas, have more than one teacher each, and be better schools, but the attendance would be more irregular. Considers that compulsory attendance is a preliminary to any serious improvement in Irish primary schools, and that it is more necessary in rural than in town schools, the proportion of attendances to the number on the roll being greater in the towns than in the country. In Sligo county the percentage is 37.6, in Sligo town and suburbs, 79, in Galway county the percentage is 58, in Galway city and suburbs over 68, 18248, 18284-90, 18319-24, 18332-8, 18393-7, 18410-1.

SCHOOL ATTENDANCE—continued.

MACLEOD.

Any attempt to get local aid for prizes for pupils would be useless in the absence of compulsory attendance, 18510, 18514.

SEYMOUR.

Compulsion is absolutely necessary, and any opposition which might be made to it by parents would soon die out 18518-21, 18571.

MORAN.

The Compulsory Education Act has been enforced in Belfast with very beneficial effects. The children can be taken into the factories at 14, or between 13 and 14, if they have a certificate of having passed into fourth class. They can be taken as half-timers at 11. There has been an increase in the average attendance owing to the Results System, 18837-44.

ROBERT BROWN.

About 80 per cent of the children leave his school at 11. None remain later than 13, and very few till then. It should be compulsory on children to remain until 13. The Compulsory Education Act has improved the attendance, but since it came into operation the senior pupils get certificates and leave earlier, 18854-7, 18982-96.

WARD.

Gives evidence similar to that of Mr. Brown. When the children obtain certificates at 11 they can walk the streets if they like (as they will not be taken into the mills), and a great many do so, 18945-6, 18983-5.

MORRISON BYRNE.

The average at which children throughout the country leave school is considerably under 13, but the

SCHOOL ATTENDANCE—continued.

scheme of instruction described under "AMERICAN CULTURE" would be a great inducement to them to remain longer, 18326-8.

BROWN.

The effect of the Compulsory Education Act in Belfast has been to increase the numbers on the school rolls from 45,073 in January, 1893, to 53,875 in December, 1896, and the average from 50,503 to 57,573. There are 14,000 children absent from school every day, and to deal with this number the Act requires some amendment, 18661-4.

BROWN.

The Compulsory Education Act should be extended to the whole of Ireland, so as to bring every child of school age to some school, 20789-90.

HOWAN.

Sees no way to ensure regular attendance in rural schools except by having education compulsory in rural districts as well as in cities. It would have to be greatly modified, however, to suit the rural districts. Thinks 150 attendances not an excessive number to expect, 21133-5, 21188-9, 21202-4.

PATTERSON.

The Compulsory Education Act has not improved the attendance in Derry, not nearly so much as was expected, but it has made those who were irregular a little more regular, 21368-9.

RYAN.

Found that the holding out of an excursion as a reward to the children brought them in earlier and in greater numbers. Kindergarten is a great inducement to children to attend school, 26115-7.

SCHOOL BOARDS.

MACRAE.

Under the Edinburgh School Board the senior schools are all mixed schools—boys and girls together—the infant departments are separate. The staff of teachers under the Board is class on 900. Total grant earned per child from both the Education and Science and Art Department, £1 2s 11d. The Board supplies books, apparatus, and tools free of cost. There are a few voluntary schools, 21938-64. Believes having boys and girls together has a humanising influence on the boys, 21886-9. Explains that the figures quoted as to the percentage of pupils getting the Board's "leaving certificate," do not represent the work of the elementary schools, 21938-41.

GRAY.

The cost per child to the Edinburgh School Board on the average roll is 22 4s. 4½d., on the average attendance, £2 13s. The average cost to the ratepayers is £1 3s. 0½d., the difference being made up of grants. The school instruction is covered by the grants from South Kensington. Gives the various sources of income of the School Board. The charge upon the rates is 9½d. in the pound. The average on the rolls for seventeen years is 20,000. There are 46,000 children in the Board schools, being 1 in 8 of the population. The Board instituted attendance prizes—at first 6s., afterwards 2s. 6d.—for a perfect attendance during the year. Those who had previously come regularly won these prizes, 21986-73.

MC. MURRAY.

Gives various subjects and hours of instruction in Science school, Edinburgh, 22243-51, and particulars as to religious instruction, 22259-63.

GIBSON.

Is Treasurer to the Edinburgh School Board. Last year the grants from the Education Department amounted to £29,711, from the Science and Art Department, to £273, the city school rate, to 280,046, and the fee grant, to £16,084. The city rate also maintains the evening schools, the grants from the Education Department being £4,043, from the Science and Art Department, £23. The School Board spends £2,000 a year on books, 23,000 on stationary and apparatus, £845 for attendance prizes. In 1895 there were 809 children who never missed an attendance; in 1896, 1,620. This city rate also covers the working expenses of the School Board, and pays off the interest and a proportion of the principal of over half a million borrowed for building purposes. The teachers' salaries amount to £73,200, 22342-67.

SCOTTAL.

The School Board of Leith provides all materials for hand and eye training and for elementary science; they have, moreover, in all their schools, school libraries (reference and reading), and have selected a specialist instructor of woodwork, 22528. The "leaving cer-

Appendix B.

SCHOOL BOARDS—continued.

“tificate” is for a stage some years beyond Standard 6, and is meant chiefly for secondary schools. The same teacher, as a rule, in elementary schools takes his class in all subjects, which enables him to co-ordinate them, 22584-93.

CUTHBERTSON.

The Glasgow School Board has seventy schools and about 75,000 scholars, 22998. Attendance prizes are given by the Board, eight or ten absences being allowed, 23008, 23115-20. Gives particulars concerning head masters, salaries of head masters, teachers,

SCHOOL BOARDS—continued.

total income of the Glasgow School Board, money spent on purchase of land for schools, interest on loans and principal, expense of administration, annual amount paid in salaries, cost per pupil, amount of school rate contributed by the city, 23169-217.

MACDONALD.

Under the Dundee School Board there are twenty-two schools, with about 20,000 pupils; in addition, there are those attending the evening classes in manual instruction, and 2,000 attending the Board's evening schools, 23738-803.

SCHOOL HOURS AND SESSIONS.

SHEFFINGTON.

Time might be gained on Saturday by making the hours from 10 to 12 compulsory, 14559-62. The hours are extended in some places very often to 3.30, and in some places, in summer, to 4.30, 14562-3.

MISS SPRING RICE.

In favour of extending the school hours by half an hour or even an hour on special days. Saturday should be reserved for teaching the teachers, or for classes for older girls, evening classes not being feasible in rural districts. Does not think the English system of dividing the school day into two portions separated by two hours for dinner, would be an improvement in Ireland, 15826-9.

BATHMAN.

The official day is four hours, but the actual working day for teachers, but not for all the children, is five, five and a half, or six hours. The teachers find four hours insufficient for teaching the programme to the pupils and to the monitor. When near the Results Examination, the pupils' time is extended, 15928-34.

DUBLIN.

At times, especially in winter, the teachers must keep the children longer than the specified time, 16623-32.

CRYAN.

There would be no difficulty in extending the school hours if the teaching was satisfactory. In Tonnabook School the hours are from 9 till 3.30 for ordinary work, from 3.30 till 5 for exercises and art work. The children take luncheon, 18028-33, 18060.

DOYLE.

The school hours, which are usually from 10 to 3.30, should be extended, even in rural schools, 18401-4.

MACLAGHLEN.

The school hours should not be extended, as the physical strain on pupils of a tender age is very great. It would be an advantage to dismiss the junior classes up to third, at two o'clock. Every teacher anxious to work up his school must give extra time to senior pupils, 18443-4, 18479-84, 18515-6.

MORAN.

The roll should be called at 10 or 10.30, in Belfast at 10. The English system of dividing the school day into halves, divided by two hours for dinner, would work well in Belfast, and be an advantage, 18594-702.

WARD.

The usual hours, which in Belfast are from 10 to 3—in his own school 9.30 to 5—are quite long enough, and

far too long for infants. The infants should be dismissed early, and thus would set free their teachers to assist in the other portion of the school. There should be no independent infant schools. Would not like to see the day divided into halves as in England, because time would be lost calling the roll, and it would be difficult to get a reasonable number of the children back again. There are cases in which the children are kept in school continuously from 10 till 3, but this is not reasonable. They should get half an hour for play, 1874-7, 19291-4, 19163-4.

FORBES.

Does not think it would be an advantage to have only three and a half hours for classes up to third. Could not get through the work in less than four hours. The school day in his school is 8.30 to 4, and he dismisses the classes up to fourth at 2.30, 19483, 19528-34.

MACIL.

Considering the small number of hours, does not see how anything could be grafted on the present work. A pupil may reach school any time before eleven. Half an hour is taken for recreation, and only two and a half hours are left for actual instruction. In many schools perhaps two hours in addition are taken off. No pupil should get credit for attendance unless he is present four hours, 19553-3, 19592-3.

DAUNTON.

Would consider the division of the school day into two, according to the English system, a wonderful improvement. Would give a two hours' interval. It would be necessary to mark the register again, but that would only occupy a few minutes, and would cause no practical inconvenience, 20088-95, 20168-70, 20210-4.

CARLIN.

In a school in which extra subjects are taught from 9 to 10, and after 3, the pupils attend willingly and regularly. The infants should not be kept in after 2 o'clock. The English system of giving a recess of an hour in the middle of the day should be adopted, 21014-20.

PATTERSON.

Practically a second roll call would not be attended with any loss of time. The teachers would be anxious to get the children in early, but it would be difficult, 21289-306.

THURTELL.

Would increase the four hours' secular instruction to four and a half per day. Saturday should be used for instruction to teachers in manual work at centres, and perhaps manual instruction, adequately paid for, could be given on that day in the schools, 25110-8.

SCHOOL HOURS AND SCHOONS—continued.

PUMER.

Would be in favour of using Saturday as a school day, 35734-9. Much time is lost in the morning on account of the roll being called late. It should be called within ten minutes of the school opening, 35747-56. Formerly a certain number of pupils used to go to school on Saturdays for instruction in special subjects, 35773-4.

SCHOONS.

Would shorten the hours in infant schools to three hours per day, which would be in itself an advantage, and leave the master time for exclusive attention to the senior classes. In the senior classes would lengthen the instruction to four and a-half or five

SCHOOL HOURS AND SCHOONS—continued.

hours per day, giving Wednesday and Saturday afternoons to cooking for the girls and manual instruction for the boys, 35793-306. In many places the extension of the hours would really not amount to any alteration of the present time table. The teachers should have, as in Germany, a fixed summer holiday, 35840-3, 35882-3, 35900.

RYAN.

Suggests a modification of the school hours by which they should be divided into two sessions, a morning session from 9.30 to 12, and an evening session from 6 to 9. All the manual and practical subjects of the instruction could be given in the evening session, 36206-14, 36221-3, 36234-8.

SCIENCE INSTRUCTION.

BROTHER THOMAS.

Every elementary school should have a course of natural and experimental science as a foundation for technical instruction in farming or in any other art; and the children, who would delight in it, should make experiments themselves. This would be easier in a town than in a rural school, but much would depend on the teacher, 14277-9. Describes the work done in the chemical laboratory at De La Salle College, the college's connection with the Science and Art Department, and the results of the examinations, 14317-23, 14351-3. Experimental science should be taught practically in the schools, and the teachers should learn the use of the apparatus in the training colleges, 14341-6. Thinks the school programmes in science too extensive, and that one could be devised, beginning in the fourth and ending in the sixth class, 14370-3. Science teaching has a beneficial effect on both pupils and teachers, 14387-9.

SHERRINGTON.

There would not be any great difficulty in the way of teachers learning to teach the principles of science, if it were made compulsory, 14540-4. The expense of providing apparatus for teaching chemistry and science would not be great, 14545-5.

GOSWART.

The elements of science should be taught in all schools. Formerly, had classes in connection with South Kensington, but when the second class pass, which was more suitable for children attending a primary school, was abolished, and the first class pass made more difficult, it was found impossible to work with any advantage with the Science and Art Department. Keeps up science to a small extent however, and the children make simple experiments themselves, 14730-5.

BURN.

Cannot speak too highly of the advantage which would accrue from the teaching of elementary physical science and elementary chemistry in the primary schools. There would be some difficulty in introducing the subjects however. The teachers must be trained to manipulate the instruments, and should be trained in the training colleges or in centres. A £5 set of chemicals would do for an ordinary school, but £30 worth of apparatus would be necessary for physical science. Should not be compulsory for some time, 15035-6, 15038. There is nothing in which boys take a livelier interest. Finds that knowledge of the subjects has placed many of the boys in better circumstances than they could otherwise have attained. Elementary science is begun in the fourth standard,

in which the boys are about ten or eleven, by using for object lessons the specimens of raw material and finished article, in the school collection, and is continued in the upper classes, 15048-51. Owing to there being no science course in the preparatory grades of the Intermediate, science subjects are not largely taken up in the higher grades. Considers this a very serious matter, 15051-3. Experimental science should be taught in every school, as it supplies knowledge which can never be given by drawing, or by the Sloyd system, 15075-7. In addition to the training of teachers in central schools and training colleges, there could be a system of lectures by itinerant lecturers, which would be attended by teachers and senior pupils. The teachers would encourage this as the only thing that could be done until they were qualified, 15088-9. Science taught without experiments is of very little advantage, and this is one of the defects in the teaching of agriculture. Children in the fourth class could be taught science and elementary chemistry, 15093-4.

SMITH.

It should be compulsory on all male teachers to teach natural sciences, 15273-7. Even theoretically it is of advantage, but practical instruction would be better, 15284-4.

E. J. MURRAY.

Has classes in the Model School, Cork, under the Science and Art Department, but the programme is now too difficult for elementary school children to grasp. Would not be disposed to give even a simple course of science in the fourth class, but would begin in the junior fifth, which corresponds with the fourth in the Christian schools, 15357-66, 15360-3. The teachers could be trained by Saturday lectures, but would prefer a course similar to the South Kensington one. There might be three courses of a month each in the summer, 15373-81. The apparatus should be largely provided by the State. The pupils would be much interested in the subject, particularly in the practical illustrations, without which it would be useless. There would be no hardship in making it compulsory after a certain number of years, 15383-7.

DENNETT.

Very much in favour of physical science, which develops intelligence more than abstract parsing, 15421. The ordinary teacher could easily qualify himself, but the itinerant teacher might be introduced where the ordinary teacher knows nothing of agricultural chemistry or experimental science, 15380-1.

APPENDIX K. IV. SCIENCE INSTRUCTION—continued.

GARDNER.

In favour of science readers, accompanied with practical work. Serves to train the hand and eye, and begets accuracy when the child, as he should, makes experiments himself, 18334-5, 18393-707.

G. RAYNES.

Teachers and monitors could receive practical instruction and qualify by examination in the Science and Art classes. It would be an immense improvement if the teachers got a thorough instruction in elementary science in the training colleges. Object lessons in the nature of elementary science might be given in the schools. Could not be taught satisfactorily merely by readers without experimental illustrations, which should therefore be insisted on, 16025-8, 16088, 16123-8.

W. B. JOYCE.

Formerly had Science and Art classes, but the new rule by which the Department ceased to pay for second class passes when the teaching of the subject was in its infancy, cut away the science teaching in National schools. The grant is now £4,000, and used to be twice that. It would be dangerous to take the subject under the National Board, as the syllabus is so vague and inadequate. The Science and Art programme is more detailed. Would prefer a free hand in the subject, were it not for the results fees. A simple book on the subject would be useful. Its object is to develop the powers of observation and sense of accuracy, and this object could be attained in many ways without a book. Practical teaching by experiments would be essential. Many of the teachers would gladly qualify in the subject, 16124-38, 16160-72, 16783-7, 16306, 16311-3.

MOST REV. DR. O'DWYER.

Would prefer science to manual instruction, and for manual and practical training would rank it after drawing. Should be taught by the ordinary teachers, every one of whom should be competent to teach it, and it should be obligatory to have classes taught sanitation, light, heat and mechanics, and other matters with reference to various trades, in every school. The managers would encourage the teachers to learn how to teach the subject if instructors were sent round. Think the teachers do not teach science under the National Board, because they follow the line of least resistance, and take the subjects in which the fees are most easily earned. There might be some useful elementary science subjects; e.g., ventilation, &c., taught in girls' schools if time could be found for them, but the results of teaching science to girls for the purpose of inducing habits of accuracy would not be of any practical value. The parents would like the introduction of science subjects, 18542, 18547-51, 18555, 18582, 18599-600, 18613-24, 18661.

DRILLANE.

An elementary course should be given in rural as well as in town schools, 18336-8, 18343.

LALLY.

Should be taught in all the elementary schools. Would be useful for children, and popular with the teachers and parents, 17040-1, 17065, 17088-61.

LYONSKE.

The teaching of chemistry should be compulsory, and it would be desirable that the elements of science generally should be taught. The teachers could easily become competent to teach it, and parents would approve of it, 17143-8, 17164-5.

SCIENCE INSTRUCTION—continued.

HARRISON.

A course of elementary science should be adopted, and if taken up on Saturdays or outside school time, would be very valuable. The mathematical subjects should be grouped as in the Intermediate and University examinations, 17858, 17862, 17876-8.

CHETAN.

Teaches science under the Science and Art Department in preference to the National Board, because the former gives £2 for a pass; the latter only 8s. Experimental teaching is the best but it takes too much time for a teacher who wants to earn results in the shortest way. The classes are held from 3.40 to 4.30, and the children willingly wait for them without dinner. Think the teachers would avail of the services of an itinerant teacher sent round to teach them. Girls as well as boys attend the classes and obtain great benefit from them, 17867-75, 18014-20, 18027, 18035-65, 18073-4, 18114-5, 18128-42, 18179.

PREHEAN.

Was formerly assistant to Dr. Clarke and attended him in his peripatetic lectures in the Model schools. The lectures, which were given in courses of six weeks of one hour daily, were delivered on Saturdays, and after 3 o'clock on other days, to teachers as well as to pupils. The apparatus carried round for the experiments was very elaborate, and afterwards the Board supplied each Model school with a set costing £50 or £60. The lectures were given according to the requirements of the different districts, and were illustrated. Some of the pupils helped to make the diagrams, and in the experiments. Evening lectures were given to workmen. Would be in favour of a return to the system described, but for it the results system would require serious modification, 18181-288.

DOYLE.

The Science and Art Department pay more satisfactorily than the National Board, but he gave up the classes under it because of new and more difficult conditions. Classes for elementary science might be held in towns and cities, after school hours, but the subject should also be taught in the day schools. Believe the teachers would attend at centres for instruction, 18263-75, 18408-9.

SWEENEY.

Would begin to teach the elements in fifth and sixth classes, 18549.

ROBERT BROWN.

Advocates the teaching of elementary physics practically, with experiments, throughout the classes. Supposes that object lessons even in the first classes would be useful. Exact and measurement should be considered separate subjects. Would teach science for the purpose of awakening the children's imagination, making them more observant, and training their reasoning powers. The difficulty of its introduction is that the Commissioners do not pay for it and do not want it, and there is no time after teaching the subjects they do require. The programme is too elaborate and difficult. Would be in favour of a revival of the system of peripatetic lectures with experiments, 18397-966, 18910-4, 18925, 19023-7.

WARD.

Would have elementary science made compulsory in the schools where it would be likely to be of use. Object lessons would be of use in every school. The

SCIENCE INSTRUCTION—continued.

more advanced science instruction might be followed according to the locality, and, in the country, it might have a bearing on agriculture. Should be taught chiefly by experiments, 19069-71, 19126-31.

MORSEMAN BIRAR.

It is absolutely necessary that the teachers and children should have a knowledge of the elementary principles of chemistry. Lessons should be given on the principles of hygiene. In large cities, would give a decided preference to physical science, and would consider elementary science lessons, beginning with object lessons an essential part of a good general education, 19297, 19305, 19368, 19382-3, 19404.

FOSTER.

In favour of its introduction and thinks the course to be taught should have relation to the industries carried on in the locality. Could be included by a modification of the existing programmes, 19425-7, 19459-3, 19488, 19490, 19523.

DEWAR.

Should be taught in all schools, and by experiments, without which it is absolutely useless. There would not be much difficulty as regards the cost of apparatus for simple experiments. Would leave the course, until the system was established, to the teachers themselves. Would introduce "Gairdner's Physical Geography," and primers on botany and heat in the same series, and the boys could use these as reading books. It would be well if money were earmarked for the purchase of apparatus. Twenty years ago there was an extensive course of physical science taught under the Board, but since the Results System, it is not taught. In one school in the district, however, it is taught in connection with the Science and Art Department. The present National Board programme in science demands too much, 19561-3, 19578-80, 19617-20, 19645-6, 20005-14, 20035-6.

DALTON.

Is anxious to see physical science introduced, and thinks that this is the second direction in which kindergarten should branch out in the higher classes. There should be object teaching from objects in the actual world about us—with, say, flowers and plants for a beginning. There should be, as in Germany, school exercises—Saturdays might be used—and the children's attention should be called to different things, which they could describe afterwards, the lower classes orally, the upper classes in writing. A great deal might be done in the higher classes by getting the children to make simple apparatus for themselves. To train the teachers, something more should be done in the training colleges, and it would be desirable if they could be sent to the Royal College of Science for laboratory work. If a programme were drawn up with respectable fees attached, the teachers would very quickly qualify for teaching, 20084, 20118-23, 20136, 20194-5, 20197-208.

PENLOW.

Would have an elementary course taught as far as time would permit, 20514.

BARBOUR.

Teaches science experimentally in the senior classes and finds that the lessons make the children sharper and more inventive, while they are not behind the other children in literary subjects. Science should be taught experimentally, right through school; in the younger classes not for an examination but as a preparation for the senior divisions. The children

SCIENCE INSTRUCTION—continued.

should perform experiments themselves, and actually do so in their own homes. Of the National Board programme, he could teach with advantage the inorganic chemistry part, but there are other parts he would like to modify. Teachers in connection with the Science and Art Department, and not the National Board. The latter pays a results fee of only 5s.; the former pays a fee of 25, gives handsome Queen's prizes, and awards certificates which are often the passports to employment in Belfast, 20556-8, 20567-9, 20574-82, 20587-95, 20601-3, 20614-5.

BROWN.

Should be taught as an extension of object lessons involving scientific ideas—which should be from real objects, not pictures—but would not teach science as science before the fifth class. It is perhaps because they are too difficult that the present science programmes are not taken up. The teaching should be experimental, and it would devolve on the Department to supply, or assist in supplying, the apparatus. The corresponding assistance would be local, but in many cases that means the teacher. In a place like Derry, however, the Corporation would assist. In the lower classes he would have what the Science and Art Department calls physiography, and in the senior classes some chemistry and botany should be taught, 20553-8, 20566, 20571-5, 20701-4, 20718-22, 20813-4.

EARDLEY.

Was assistant to Dr. Clarke in his lectures through the country. The actual teaching was an hour a day to the pupils, and as far as possible the advanced pupils were encouraged to assist in giving experiments and to construct simple forms of apparatus. Instruction was given to the Model School teachers in the mornings, and lectures to the teachers of the districts, who attended largely, on Saturdays. Describes the course taught, which embraced applied as well as theoretical science. The pupils attended regularly and took great interest in the lectures, and they accompanied Dr. Clarke in visits to objects of interest in the different neighbourhoods. By this instruction the intelligence of the pupils was raised and stimulated, so that the acquisition of other things was rendered easier. Dr. Clarke attended at each place for three or four months, and afterwards his assistants carried on the work. Care was taken that the teachers assisted in making all the experiments and in doing everything necessary to enable them to carry on the instruction. The pupils paid no fees. Authority was given by the Commissioners to Dr. Clarke and his assistants to purchase £10 or £15 worth of apparatus for each school visited and lectured in. This amount was found sufficient. After Dr. Clarke's death the system died out, there being no one to keep up the enthusiasm. At the time these lectures were given, the Results System was not in existence. Now, however, outside teachers taking up the time of the school, would be required with the old shoulder. The feasible way to re-introduce the subject would be to let the teachers attend at centres and acquire the power of giving lectures themselves. The present science programmes are far enough, but the teachers do not take them up because they cannot use the apparatus. In the third and fourth classes the children might be taught to make little toys involving mechanical principles, with soft wood and a little wire. It would be injudicious, however, to teach science before the fifth class. Describes apparatus which might be made by that experiment which would be suitable for children in the fifth and sixth classes, 20622-6, 20689-84, 20699-104, 20950-9, 20967-70.

APPENDIX B
3V. SCIENCE INSTRUCTION—continued.

CABIN.

It would be possible without infringing upon school time to introduce lessons upon natural science running from the simple to the higher and more intricate forms. Object lessons in elementary science would be useful in the lower classes, 210983, 210221-3.

M-MENANIN.

Is very much in favour of an elementary course, and thinks it would be very interesting to the pupils, that the teachers would readily adopt it, and that it would not be difficult to give them sufficient instruction to enable them to carry it on, 21064-6.

ROWAN.

An elementary course would be interesting to the pupils, and should be taught in both rural and town schools; and it would be well for the children to make simple experiments themselves. It would be easy to have the teachers qualified. A demonstrator of science should go to centres and give the teachers model lessons on Saturdays, and a few lessons would enable most capable teachers to go on with it. The syllabus should be drawn on sufficient lines than at present, and there should be no fee to be paid by the pupils, 21122-5, 21153-63.

PATTERSON.

Is about the best training for teachers and pupils, and he would prefer it to manual instruction. Would not make it compulsory, but would give a respectable fee for it, which would make it worth while taking up, and would value the quarterly fee of 2s. which the pupils are now required to pay, and would make the examinations more practical. Physical science is one of the most practical and useful school subjects, but it should be taught practically. If taught properly it trains the hand, eye, and brain. Finds that the pupils take a very great interest in the instruction, and attend Saturday classes for it when they would attend for nothing else. It would be very easy to extend its teaching in the rural schools. Any teacher can make and can get the children to make apparatus; a grant should be given for any apparatus he can't make. The teachers could easily learn sufficient to enable them to teach it. It is a pity the Science and Art Department took a step to kill science in Ireland. Their new rules caused the classes to be dropped, and now the grant of the Department is consumed in opposed science schools in England, and not by the people it was originally intended for. The standard of the Department up to 1879, or from 1870 to 1880, was quite high enough. Last year the grant given in England was £292,000, in Ireland it has fallen from £5,600 to £3,500. There are 3,106 classes in England, in Ireland there were only 140 last year, and this year the number will probably not amount to 100. While science instruction is rapidly increasing in England and Scotland, it is rapidly decreasing in Ireland. Thanks to a great pity the system of science lectures started by Dr. Clarke and his assistants was given up, and that now a beginning must be made with the teachers in the training colleges, 21234-32, 21263, 21290-3, 21313-20.

M'C. MURRAY.

Has been taught for six years in Science school, Edinburgh, under three divisions—elementary botany, zoology, and chemistry. The scheme commences in the infant department with specially graded object lessons. The instruction is given by the ordinary teachers and in the ordinary classrooms. There was a considerable waste of time when the class was moved into the

SCIENCE INSTRUCTION—continued.

demonstration room. The objects are seen and handled as far as possible, and lantern-slides are used to illustrate the work, more particularly the botany and zoology, 22156-67. The teachers, besides holding the certificate of the Education Department, have qualified in the Heriot Watt College. Notes of the lessons are kept and submitted to the Inspector at his annual visit. No text-books are used by the pupils. The object is to give the basis of a general scientific education, that may be specialized afterwards by training accurate powers of observation and deduction, 22163-75. Gives particulars as regards nature of, and arrangements for, teaching elementary principles of science, as carried through the whole course from Standard 1 to Standard ex-6 in six schools out of twenty-nine in Edinburgh. Considers the course, although it does not comprise heat and light, quite ample for elementary schools. The schools are provided with full sets of apparatus from grants made six years back by the Town Council. In the lowest class the pupils make simple gases and perform simple experiments. The botany course is taught largely in the spring and summer, when plants are available. In botany and zoology text-books and written examinations are a very great mistake. If it were necessary to choose between manual instruction and science, would prefer the latter, 22212-41.

SCOTLAND.

The value of elementary science instruction has been forced on him after many years of inspection work by the absence of educational outcome from exclusive instruction in "the three Rs." Its aims are to introduce variety into the curriculum, to cultivate powers of observation and enquiry. Considers that classification in elementary science should depend on proficiency, whereas, the rule under the Code is that proficiency in arithmetic decides classification, 22325-32. As the subject should be regarded as portion of the ordinary curriculum, ordinary teachers are to be preferred to specialists. Of late years they are being suitably prepared in the Training Colleges, 22532-7. The Leith School Board provides all necessary material, apparatus, museum cases, &c., 22538. The subject was introduced in a tentative way in one school in 1889. At first it was taken only by the boys, but at the request of the teachers it was extended to the girls. Object lessons serve as the initial stages. There is not a school in Leith that would willingly give up the subject. At a conference of the Board and the teachers it was decided that the scheme to be adopted should throughout all the standards comprise instruction in animal and plant life, knowledge of common things, manufactures, and something of electricity, chemistry, mechanics, and physics. Each school draws out its own programme on these lines and submits them for his approval. The object of the instruction is to awaken the faculty of observation. Each teacher must illustrate his lecture with objects and experiments, and in the best schools the pupils make experiments themselves, 22561-76. The reason for the ordinary teacher teaching science is to co-ordinate all the subjects. The object of science teaching on the teachers has been to habituate them to more thorough methods of oral instruction, 22590-4. The cost per pupil of the elementary science instruction on the average attendance in 1895 was 1s. 9d.; in 1896 about 2s. 9d. If technical schools were established they would be more likely to succeed if elementary science instruction was given in the elementary schools, 22607-8. As a necessary preliminary to the introduction of elementary science, the system of individual examination must be abolished, 22603-73. An expert scientist is not requisite for teaching elementary science; an ordinary teacher with correct method is quite adequate, 22687-90, 22703-4.

SCIENCE INSTRUCTION—continued.

OUTLINE.

Although the Science and Art Department has withdrawn the grants from elementary schools for the science subjects, the School Board of Glasgow continues at its own expense, instruction in chemistry, physiology, botany, magnetism, and electricity. It has eight chemical laboratories in the elementary schools. The teachers are the ordinary staff. Elementary science is taken in forty-one schools, and the School Board intend extending it to the twenty-eight remaining schools, 23504-13. For the future the grants for these subjects will be transferred to, and administered by, the Education Department, 23190-3. The teacher is not tied down by the School Board to their scheme, but on the basis he may draw up his own scheme and submit it to the School Board. The instruction consists of lessons illustrated by experiments with apparatus. 23044-32. Would say the chief advantage of the science instruction is to cultivate the faculty of observation, which is especially of great advantage to children going subsequently to evening or technical schools, 23068-73.

G. W. ALEXANDER.

At the time, four or five years ago, when elementary science was taken up, the Glasgow School Board agreed to give an outfit at a cost not exceeding £10, and to supply sundries in any succeeding year, not exceeding £10, 23140-1, 23147-58. The instruction is entirely given by the ordinary teachers. The Board has not pressed the adoption of the subject on any head master, yet since 1898, when it was introduced into the Code, forty-one schools have taken it up, 23159-61. The head master makes the application for the grant for apparatus and exhibits the detailed programme of science taught, 23175-82. Will put in a list of the apparatus required, 23218.

KEIR.

Science instruction under the Science and Art Department is the chief source of income in the Allan's Glen Secondary School, Glasgow. In Standards 4 and 5, the lowest standards in the school, little more than object lessons are attempted, in Standard 6 the pupils do some practical physics. Those pupils presented for the Science and Art examinations are from fourteen to seventeen years of age. In ex-6 and the classes beyond, they have two hours' practical chemistry, practical physics and solid geometry. Considers that in Standards 4, 5, and 6, the end of science teaching is to interest the pupils by providing a variety of occupation. If, in addition, the pupil himself will do the work, there is an enormous gain. Would measure the educational effort by the amount of intellectual effort the pupil can be got to bring to bear in solving a problem suited to his capacity, 23494-303. Objects strongly to the use of such science readers as convey the idea to both pupil and teacher that science can be taught and learned on a fairly set of books, 23506-7, 23509-6. The work in his school is carried out under exceptional arrangements which do not exist in the elementary schools. Illustrates the difficulty in getting elementary science taught within the intelligence of the pupils even in Standard 6, 23508-11. Unless the time is properly given, the appliances suitable, and the course well devised, it is better to exclude the subject entirely. Would prefer manual instruction for elementary schools. Considers the earliest time at which science can be taught with profit is in Standard 6. Describes a course devised by himself for Standards 4 and 5, to obtain the intellectual results—quickness of observation and accuracy in work—imposed to be aimed at in object lessons and elementary science,

SCIENCE INSTRUCTION—continued.

23540-50. In his school there are sixteen instructors in practical physics—two supervising each practical class. There are two hours spent in theoretical work in the classroom in each case under one of the two instructors supervising the laboratory work. Devises up himself the various programmes in accordance with the organised science school scheme of instruction, 23548-73. Is not inclined to think science instruction very desirable in the elementary schools in view of the excellent work that can be done with so many other things. Science just science is not of sufficient consequence at that point to justify the exclusion of any of the ordinary work. If an hour could be given to it per week with a good teacher and fair appliances, it might be desirable, 23571-7. The science teaching in Training Colleges should include a laboratory course precisely on lines suited for young pupils: the teachers should also be the lecturer leading it in the practising school, and should themselves teach the practising classes under the lecturer's supervision. Considers that the Science and Art Department has made enormous strides in advancing education in practical science; this applies in a particular manner to the programme in practical chemistry modelled under the direction of Professors Armstrong and Tilden. In Training Colleges the course followed should be on the same lines, not so high as the Honours Course. Considers the teacher is not competent to teach elementary science unless he has worked at an advanced course, 23577-87. The existence of secondary schools, such as his, would be an argument for the exclusion of elementary science and woodwork from elementary schools only where all the pupils could be drafted into them, 23600-4.

BLAIR.

In the Dundee Evening Continuation Classes, photography is taught, but only to the advanced pupils, 23759-61.

MACDONALD.

Elementary science is taught in all the day schools in Dundee. There are, moreover, two evening schools specially set apart for education above Standard 6, in which photography, chemistry, &c., are taught under the Science and Art programme, 23760-7. Chemistry, physics and photography are taught in the ordinary day schools, 23807.

ROBERT CALDER.

The science programme taught in the Dundee Schools is drawn up by the head masters, and submitted to the inspector for approval, 23826-8.

TERMAN.

Proposes syllabuses in physical and natural science for female Queen's scholars in training colleges. Such courses would necessitate another year being added to training. For male Queen's scholars proposes an amplified course on the same lines, 23853-5. In Lamsane Training College the professor of physical and natural science gives nineteen hours instruction in the week, 23888, while in Marlborough-street there is no science instruction whatever. The Board would accept certification of the Science and Art Department but it is not found possible to construct science and art classes in the College, owing to the existing nature of the literary curriculum, 24049-54. Experimental physics was formerly taught in the male department of Marlborough-street. Twelve optional subjects are set out in the new programme, seven of which are science subjects. Any one of these may be taken as the optional subject required for first of first classification. As the number of students who aspire to

APPENDIX B.
IV

SCIENCE INSTRUCTION—continued.

this distinction is few, the optional subject is taken by an inconsiderable number. These science subjects are specialised branches of science. Would advocates the substitution of one course comprising general principles of science, and which should be compulsory for all students, 24068-83. Science appears in the new programme for the first time as a classification subject; under the old programme science subjects were special subjects carrying separate certificates, and in the case of female scholars were limited to hygiene and domestic economy, 24128-35.

DOCKERTY.

Object lessons, being an elementary course in science, should be introduced into all the schools for both boys and girls, 24178. While science is superior to manual instruction as an intellectual training, the latter does not impose the same mental strain on both teachers and pupils, 24193. Where a teacher does not take manual instruction for his senior classes he ought to be required to take some one of the experimental or natural sciences. For the present where manual instruction is taken to science subject should be demanded. Subject to this alternative the science course should consist of object lessons in the junior classes, and science proper in the senior, the time of instruction being half an hour to three quarters twice a week. The examination should be by inspection. In the training colleges mechanics and one of the experimental or natural science subjects should be compulsory for classification for male students, 24303-10, 24345-6. In both schools and training colleges the course should be experimental, 24311-3. In girls' schools, cookery, domestic economy, &c., might be recognised as science subjects, 24314. Approves of the principle adopted in the English Code with reference to science teaching, by which a number of alternative syllabuses are set out in the Code, anyone of which a teacher may adopt, or may draw up his own syllabus requiring only the sanction of the inspector to confirm it, 24352-66. As professor of experimental science in Marlborough-street Training College, lectured up to this year in experimental science under the heads enumerated. This year a deputation of the students waited on him and pointed out that the new programme was practically that of the Science and Art Department, which would require an excessive amount of work. As it was all important they should pass with distinction they petitioned to be allowed to take the easiest course, namely, trigonometry, 24347-54. In the training colleges and in the schools the same principle should hold, namely, that the teacher should have the fullest discretion to learn and teach a course of general science on the lines of Course H of the English Code or, in the alternative, any one exclusively of the specialised branches of science, viz., mechanics, electricity, magnetism, chemistry, physiology, &c. Holds that the pupil going through a thorough study of any one of the physical sciences, must acquire a facility to engage in other branches of science, and will derive more benefit from it than from the wider course. This should be prefixed in the lower classes by object lessons in experimental science as an introductory step, 24355-81. Enumerates the subjects dealt with in his science courses in Marlborough-street, also the heads of his course in general science. Would be in favour of training science instructors to teach the teachers in courses, 24387-91. In Marlborough-street there is no chemical laboratory and no provision for instruction in chemistry, 24393-4.

CAMPBELL.

Science, which is an optional subject, was taught in St. Patrick's Training College, previous to the introduction of the new programme. This year, at the wish of the students, trigonometry has been taken instead.

SCIENCE INSTRUCTION—continued.

They think it more easily acquired than a large amount of science, and they find it more useful, as they are frequently employed to survey lands in country districts. Two pupils were presented in trigonometry from the schools of Ireland last year. Science should be a compulsory subject for training colleges, 24468-80.

PITTON.

Object lessons and experimental science should be taught experimentally. The former should be made compulsory at once in the schools, as every teacher can teach them, and the materials required are inexpensive. Any science teaching should be by demonstration and experiment, not taught from books. One lesson per week for each class would be the minimum. Would group the children into junior and senior divisions, and teach one object lesson to the junior class and one to the senior. For the juniors the lesson should deal with simple objects—fruit, vegetables, &c.; for the seniors, with weights and measures and simple elementary science, treated experimentally. The teacher should be permitted to draw up his own scheme and submit it to the inspector. From twenty to thirty lessons should constitute the course. The lessons should serve as a basis for English composition instruction, 24746-58. Explains nature of the simple and more advanced object lessons proposed, 24833-5. When Head Master of the Trim Model School, taught science under the Science and Art syllabuses in evening classes under the local education. It was for the intermediate, and outside school hours, 24834-42. In the senior classes the object lessons should be restricted to science, 24843. In Trim he purchased the apparatus himself, and the classes were attended by pupils of sixth class, monitor, pupil teachers, and some teachers, 24844-8. As the Science and Art Department will not now recognise second class passes, science teaching in Ireland under its syllabuses has practically ceased, 24852-8. Natural history and physical science should form the science course recommended, actual experiment being an essential. The teacher should be allowed to draw up his own syllabus and submit it to the inspector. The compulsory course should be a general course of physical science; after that the teacher might add a specialised branch where he wished, 24859-73. The cost of the apparatus should not be permitted to be a bar to the science instruction, 24891-2. Agrees that it would not be possible to expect on the Dublin Corporation or any local body to raise such a sum for educational purposes as was raised in Edinburgh last year, 24910-6. Notwithstanding the distinction drawn in the English Code as to object lessons, would regard them as an introductory course of natural science, 24937-8. In the training colleges, science has suffered heavily by the extensive nature of the science syllabuses in the new programme. In Marlborough-street the optional subject now taken is trigonometry, which the students prefer because it is an easier course, and will, therefore, gain higher marks. If the final examination for classification were abolished, the anxiety to gain marks would cease, 24939-35.

KINGSMILL MOORE.

Elementary science should be made compulsory in the schools subject to a proper syllabus being drawn up, encouragement being given to the training colleges to teach it, and a proper training being given to the inspectors who would examine it. The absence of provision for apparatus would not preclude such instruction, as a great deal in the way of measurement, &c., could be done without apparatus, 25411-5. Describes how in Kildare-place Training College, and in their criticism lessons, the students are encouraged to train their eye to heights, lengths and breadths. When they leave they ought to put this knowledge

SCIENCE INSTRUCTION—continued.

into practice, as it is not required of them, 25451. In the training colleges science has been killed by the new programme, 25582-4. In Kildare-place the students took trigonometry instead, because the science course laid down is wholly and entirely out of the question; if taken up, failure would be absolutely certain, 25677-8. For primary schools, advocates a course consisting of the simple general principles of the sciences, with experiments done by the pupils. Would prefer Course H in the English Code to the specialised branches set out in previous programmes as enumerated. It must be first introduced as a compulsory subject into the training colleges, with a course wider and deeper than that for the schools, 25583-97.

FURNESS.

Elementary science should be introduced in the schools. It is an unfortunate result of the new programme for training colleges that physical sciences has been dropped altogether. Would rectify the programme by a provision that failure in some of the compulsory subjects should not disqualify for classification, 25691-715.

STRONG.

Such a course as Course H of the English Code should be compulsory in classes 4, 5 and 6, with a more extensive course on the same lines in the training colleges, 25803-83.

JENNINGS.

The Royal College of Science, Dublin, was established in 1875, and one of its objects was to help in the training of teachers, but though the members of the Council are very anxious for it, and have made recommendations as to it, that branch of work has not been performed to any extent. Compared with the London College of Science and with the University Colleges in Liverpool and elsewhere, which are given Government subsidies for the training of teachers, the Dublin College is not getting fair play. Three years ago he offered to give a course of lectures to teachers in July, but nothing came of the suggestion, partly owing to the building not being suitable for the existing requirements of the College. Describes the arrangements made for training teachers in the English Colleges and the grants made to them for the purpose, and says that the only provision made by the Irish College for the Irish teachers is that it gives them the right, without however providing their railway fare or maintenance, to attend lectures, and allows them to compete with English teachers trained in English Colleges, for exhibitions. Enumerates the exhibitions and scholarships given yearly, and explains their relation to the Dublin College, but says it is quite hopeless for a man, with the present facilities for science instruction in Ireland, to successfully compete for them. The eighteen free studentships exist in connection with the London College, and there is nothing of the kind in Ireland. Suggests for the training of the National teachers engaged in teaching, a summer holiday course of three or four weeks, which would lay the foundation of the subject and enable the teachers to work in their leisure hours and prepare themselves for teaching it. Only twenty or thirty could be taken at present in the College, an improvement in the building would be necessary for a larger number. Would approve of a course of instruction which would not only cover the principles of the subject but also the method of teaching it. It would be necessary for the teachers to do practical work themselves. As to the teachers in training, it would be the better system to teach them in the training colleges if facilities could be given there, but thinks that with its apparatus the instruction would be better given in the College of Science. Every

SCIENCE INSTRUCTION—continued.

teacher should not only know the subject, but should be able to expound the teaching of it and give object lessons on it to a class. A good teacher is capable of taking up and teaching any subject he chooses. Of the 110 students in the College, of whom twenty are not Irish, only thirty take the full course, owing to the Irish school system not encouraging boys to study the subject. Elementary science, however, is absolutely necessary for primary schools. There should be a good course in physiography, and every boy and girl should be brought in touch with nature as far as possible, 25901-26055.

COTTE.

The teachers trained in the Royal College of Science in London consist of two classes, the first come from the country at large and from technical and other schools, and are brought up for the whole session and trained from the beginning in a course of science which they are pledged to apply in teaching; the second class have generally already undertaken the teaching of schools, and are brought up for a summer course. As far as his experience goes none of them are actually engaged in the training colleges. The College of Science in Dublin could offer considerable facilities in the way of apparatus and materials for the improvement of the training of the teachers in training colleges, but with its existing buildings it could not do any substantial work in training them. It could do substantial work for other teachers in summer courses, but the professors would not be willing to do the additional work for the present salaries. If anything could be done, the present physiography course, with modifications in favour of the elements of agricultural teaching and some of the elements of zoology and botany, should be taught. In teaching girls the elementary principles of chemistry, special prominence could be given to some of the principles relating to the operation of cookery. Preparing classes would be work for the training colleges and not for the College of Science. In elementary schools there should be a course of a general nature rather than a course in any particular branch. It would be possible and desirable to teach natural history by means of object lessons, to encourage collections of minerals and plants, and to have experiments illustrating the principles of physics and chemistry, 26056-102.

BARNETT.

Elementary science should be an essential part of the ordinary school curriculum, and should begin in the kindergarten, and be carried on without a break through the whole course. It conduces to accuracy, to habits of observation, and of precision in thought and action, and cultivates judgment, truthfulness, and cleanliness. The change made in the arrangements of the Science and Art Department, he believes, has practically caused the extinction of scientific teaching in the primary schools in Ireland. Is strongly of opinion that something effective should be done for the training of teachers in the Royal College of Science, but it would be absolutely necessary to increase the grants, which have remained the same for a quarter of a century, though the number of pupils has quadrupled, and to enlarge the buildings. As it is at present, the college could not do very much in the way of training the teachers. The course in elementary schools should be like physiography or even more elementary, more object lessons, and then pass on to elementary lessons in science in the higher classes. The teaching should always be accompanied by demonstrations, and as far as possible by actual experimental work by the students themselves. It would be most important that the teacher himself should be able to make every experiment. It would be a great saving of time if the metric system was taught, 26106-84.

APPENDIX. SCIENCE INSTRUCTION—continued.

HARTLEY.

In schools generally in England it has been found that one or two branches are necessary elements of a general education; and those branches have been science, such as physics and chemistry, in which practical work is recognised as essential. A sound general education in scientific methods is a necessary basis for rational technical instruction, and should be carried out both in the lecture room and the laboratory. For very young pupils a sort of general instruction in the principles underlying all science, by means of object lessons and little experiments which they would make themselves, would be extremely useful, but there is no special facility in the College of Science for training teachers in such a course, and he is afraid it could not do it very well.

MALCOLM.

Two lessons of three-quarters of an hour each per week are given to shorthand in Lockerbie school. They learn to write slowly, and the test is in reading what they have written, 21592-4.

MACRAE.

In Edinburgh, is taught in evening schools. Is more suitable for continuation than for day schools,

SCIENCE INSTRUCTION—continued.

Some arrangement, however, might be made for it. Such a course is only common information, and not exactly what he would call science. Objection to the term "elementary science," but admits that his view is at variance with the view officially taken in England. The teaching of special branches would be suitable in fifth class. The College of Science is devoting itself to the training of people who would be teachers in schools more advanced than primary schools, but could give a training to the teachers who would give the instruction to fifth class pupils. They would, however, require at least a two years' course. Has no doubt the college could supply men to act as organisers of an elementary form of scientific instruction in the schools. The Dublin college is under a great disadvantage as compared with similar institutions in England and elsewhere, where science is taught in the elementary schools, 21542-340.

SHORTHAND.

21577-80. Would advocate establishment of day commercial schools where such subjects as shorthand and typewriting could be taught, 21913-8.

TATE.

In Science Evening School, Edinburgh, shorthand is largely taken by those occupied as clerks. Considers that it should be taught after elementary education has been completed, 22283-7.

TECHNICAL EDUCATION.

MOST REV. DR. O'DWYER.

A technical education school in a city such as Limerick, should complete the manual, practical, and scientific education of schools, but the great difficulty is to find teachers. The Limerick Technical Education Board could get no teacher of agriculture from Glenside or through the Glenside authorities, and were forced to get a teacher from England, and they found it hard to get a science teacher, ultimately obtaining, however, a young English mechanic who had come over to study in the College of Science, Dublin. Does not believe there will be a sufficient number of teachers for technical education until there is a university education of which the great body of the people, particularly the Catholics, can avail, 16563, 16659-60, 16675-8.

LALIE.

Very difficult to get teachers for, in Ireland, and the Galway Technical Education Committee had to get teachers in England. The Galway school is in connection with the Guilds and City of London Institute as well as with the Science and Art Department. The local authorities levy, under the Technical Instruction Act, 1890, £276 of the union at large, for its support, and the committee supplies all the materials for cookery, laundry, and other subjects. No technical instruction is given in the rural parts of the union, but an attempt was made to give it, and it is intended to send out a peripatetic teacher of agriculture. The school was founded in January, 1893, to impart practical and manual training by teaching the whole range of technical subjects. The pupils numbered last year 150, of whom 90 were girls, and their ages varied from twelve or fourteen to twenty-five. The teachers oppose the school children attending after school hours, because they fear interference with home lectures. Last year the subjects taught were cookery, laundry, dressmaking, cutting-out, typewriting, shorthand, drawing and painting in oils and water colours. The success of the experiment shows that there was

decidedly a want. Such subjects would be better taught in special than in National schools, because of the highly efficient teachers in the former. But a preparation might be given in the elements of these subjects, especially in drawing, in National schools. Judging from the fact that the rate has been continued for five years the people desire this technical training. The salaries paid are:—To the teacher of practical instruction in wood £150 a year, to the teacher of cookery £90, and to the teacher of dressmaking £70. The teaching is in the highest degree educational. Gives details of the working of the school, and with reference to different subjects, 16833-17101.

COURTNEY CLARKE.

Such work as is done in the Galway Technical School would be very useful for all Ireland, but there would be great difficulty about the expenditure unless there is imperial aid. This school only benefits the town of Galway, and in other parts of the country a union rate in such a case would be objected to, 17383-91, 17450-65.

MORRISON BYRNE.

See his evidence in AGRICULTURE AND MANUAL INSTRUCTION.

ATKIN.

Explains the origin and constitution of the Technical Instruction Committee of the County Council of Dumfriesshire, together with its local District Committees. The Committee first engaged in pioneer work, and secondly made provision for permanent instruction in technical subjects. Pioneer Work consisted of (a) Popular lectures for farmers and others, being lectured at six centres, in agricultural botany and chemistry; (b) Field Experiments, carried out on nine farms throughout the county; (c) Dairying, being instruction in cheesemaking and buttermaking; (d)

TECHNICAL EDUCATION—continued.

Cookery and Laundry-work, day and evening classes. (e) *Lectures on Hygiene*, by the County Medical Officer, in thirteen centres; (f) *Plumbers' Work*, by voting £20 annually for classes under the National Society for the Registration of Plumbers. *Personal Work* consisted of (a) *Preparatory Classes for Elementary and Secondary School Teachers*, where agriculture and theoretical chemistry, under the Science and Art syllabus, cookery classes, under the County Instruction, to enable to qualify for teaching under the Code, and *Sloyd* instruction, were given. The success experienced shows that the teachers have thrown themselves into the movement. A well-equipped laboratory is now available in the Danfrasa Academy, where forty teachers can receive instruction in practical chemistry. (b) *Selected, or Central Schools, having provision for Technical and Secondary Education*, being the five schools named, one in each of the divisions of the county, where a secondary department was erected by building grants, and is maintained by annual grants. The annual grant consists of fixed sums amounting to £205, and capitation grants on ex-pupils of Standard 5, who pass the Science and Art examinations in subjects enumerated, which also amounted to £205. (c) *Elementary Schools*, grants not exceeding 3s. 6d. per head, are awarded on inspection in respect of pupils in Standards 5 and 6 assisted in cookery, drawing, and *Sloyd*, under the Science and Art Department, book-keeping, chemistry, mathematics, shorthand, and agriculture, taken under the Code. The grants are expended in remunerating the teachers, and defraying expenses of the schools. (d) *Apprentice Grants*, where the managers of the schools provide half the cost. (e) *Bursaries and Free Scholarships*, tenable at the central schools, the purpose of which is to get the rural schools to act as feeders to these central schools. (f) *Instruction in Drawing*, by means of a grant to the Kilmarnock Dairy School, on condition of free admission to all students desiring to attend from the county. (g) *Grants to Local Committees providing Technical Instruction in evening classes under the Science and Art syllabus*. The Committee considers that the best results are to be obtained by providing instruction for the young in elementary and secondary schools. Pels in a tabular return showing the increase in practical instruction in 1892 to 1896, for which grants were paid to the various School Boards in the county, 21322-5. The cookery and laundry-work, by demonstration and practical work, is for adults, 21327-8. In the classes for teachers, the idea is to teach the principles of technical work, not to teach trades, 21329. The Committee had the idea of paying the managers of the five selected schools a fixed grant, as they had sunk so much capital in the work, 21335-6. It is hoped that the pupils will remain in these schools up to fifteen years of age. For the average pupils who cannot avail of these schools, the evening classes should supply instruction, 21343-4. By introducing specialist technical teachers the technical side of education will be kept prominent in these schools, 21358-4. The Committee has amalgamated secondary and technical committees, and grants in the area of these seven schools, explains how the grants are affected, 21355-60, 21372. The managers pay one-half or one-third of the cost of the apparatus. Towards the building of these schools the Technical Committee has only been able to give one-eighth or one-twelfth of the thousands of pounds spent, the remainder being raised by rates levied on the parish, 21361-3.

TECHNICAL EDUCATION—continued.

21403-4. Considers that for any central department to spend money erecting technical schools and administering it from the capital of the county, must be hopeless, without the co-operation of local committees, which are indispensable, 21364-6. The Committee has given eleven bursaries and eleven free scholarships each year in the central schools, for which they had sixty applications. That the holders should complete their three years at the school has not yet been imposed as a condition, 21367-71. Of the five central schools, that of Wallace Hall is the only one which has not a Board School attached, 21379-80. The bursaries are valued at £10 each, tenable for three years, and only at the Danfrasa Academy and Wallace Hall is any charge made to pupils, 21381-3. The total amount which the Committee has at its disposal for technical instruction is about £1,100 partly, varying with the prevalence of swine fever, 21384. The County Council have the option of applying this money to the relief of rates or to making provision for technical instruction, 21325-7. The annual grant of the Committee to the central schools varies from £1 to £2 per head; that to the elementary schools is only 2s. 6d. per head. The sphere of the County Council is confined to technical instruction and secondary education, while they can give grants in aid to the School Board only for certain branches of instruction, 21405-8.

NORTHAMPTON.

In conjunction with Mr. Gillespie, endeavoured to persuade the County Council of Scotland to devote the money applicable either to the relief of the rates or to technical education, to the latter purpose. In 1892-3 there was £4,702 of the grant applied to rates, in 1893-4, £2,943; in 1894-5, £3,723; in 1895-6, £2,391; and in 1896-7, £1,530 odd out of a grant of £17,099 for 8d. Gives also the percentages of the grant spent on technical education in those years. In Scotland the grant varies from year to year, owing to its being also applicable to the expenditure in connection with the suppression of swine fever. The counties Forfar, Lanark, and Perth give a further allocation for technical education from the local taxation relief grant. The technical education grants are, together with those received for secondary education, administered by the County Secondary Education Committee for secondary and technical instruction, 21487-90.

MAGRAZ.

Favours higher grade schools for technical instruction for children willing to proceed further than the compulsory standards, 21474-32.

SCOTLAND.

If technical schools were established they would be more likely to succeed if elementary science instruction was given in the elementary schools, 23007-8.

CHRYSTON.

In Glasgow, the Allan Glen's School—an organized science school—gives technical instruction, as also the Technical College, which is attended by about 3,000 students, day and evening. About 4 per cent of the School Board children go to these technical colleges, which are rather beyond the capacity of the greater number of them, 23053-61. The elementary science in the Board's schools is of gross assistance to pupils going subsequently to technical schools, 23063-78.

TRAINING COLLEGES.

BATHON.

The course, instead of being to a great extent for the higher classification of teachers, should be limited to pedagogy—the teaching of how to give instruction

in various places of school management, in elementary science and in practical agriculture. In the female colleges, cookery should be compulsory. With the present literary programme it seems hard to get

APPENDIX B. TRAINING COLLEGES—continued.

time for agriculture and Slaid work. For this reason would modify the training programme and the course through the college, the latter especially, 18963-4, 16041, 16063-6, 16086-9.

W. R. JONES.

The course in, at present, is regarded solely as a means of getting promotion, not of increasing professional skill and knowledge. This is a radical fault of the system. Promotion on this account should be given to a teacher in training, but the course should be devoted to increasing and widening professional skill and knowledge. To qualify teachers for giving instruction in drawing, Slaid, and kindergarten, the entire training session should be devoted to systematic courses in those subjects and to pedagogic studies in general. Would substitute promotion by service for promotion by examination, 16179, 16188-91, 16207-12.

Mrs. REV. DR. O'DWYER.

If the teachers were well taught in the training colleges they would be glad to teach a great many things they think new. The agricultural sciences should be made an important part of their course, 16336-7, 16545.

SCOTLAND.

There are three training colleges in Edinburgh. They are denominational, one connected with the Church of Scotland, another with the Free Church, and another with the Episcopal Church, which train the teachers of all Scotland. They get a very considerable Government grant, 22613-7.

KENS.

Has had an experience of thirteen years as Lecturer in the Glasgow Training College, 23487. A good teacher must have something equivalent to a university experience. It is very difficult to get a man who really is thinking of the exact effect of everything he does. Such men are not paid for, and the formal training in a training college does not encourage their development. Prefer the university-trained man, 23563-7. The science teaching in training colleges should be completely remodelled. Would introduce a laboratory course precisely on the lines suited for young pupils, make the teachers go through that course, and see the lecturer teaching the course to pupils in the practicing school, and should themselves teach the practicing classes under the lecturer's supervision. The teachers are not taken sufficiently to the practicing schools in the training colleges. Consider the Science and Art Department has made enormous strides in advancing education in practical science; this applies in a particular manner to the programme in practical chemistry modelled under the direction of Professors Armstrong and Tilden. In training colleges the course to be followed should be on the same lines, not so high as the Science and Art Honours Course. Consider a teacher not competent to teach elementary science unless he has worked at advanced science, 23577-87.

TREHAN.

Given particulars of the routine life of the female students in Marlborough-street Training College, of their training in kindergarten, cookery, dairying, &c., 23973-89. The programme for classification, on which the examinations are held at the end of the course, is an excellent literary and mathematical course, but of the thirteen subjects for women but two—drawing and needlework—are adapted for hand and eye training; for men there are sixteen subjects, one only of which—drawing—is suited to that purpose. The literary course should terminate at a time anterior to the conclusion

TRAINING COLLEGES—continued.

of the training period, and the remaining time should be given to the following subjects for women—practical cookery, domestic science, horticulture, dairying, and an elementary course of physical and natural science, practical kindergarten, including object lessons in physical and natural sciences, and elementary botany. Outline syllabus in physical science, and one in natural science for female students. In order to carry out these courses, a third training year should be added to the student's college life. For the male students the subjects of practical instruction should be practical geometry, drawing, applied drawing, practical agriculture, and horticulture, and a similar syllabus in physical and natural sciences, only more extensive, 23981-5. The main object of the training colleges—to train in the art of teaching—is not kept in view in the existing system. The system must be re-arranged to admit of training in hand and eye and of manual instruction. Was not aware that an extension of the training course to three years is now recognised by the English Education Department. In the proposed three years' course, the first two years should be confined to the existing course with the addition of instruction in the art of teaching. In the third year the various subjects of practical instruction should be taken up, the same prominence being given to instruction in the art of teaching, 23989-4012. As the introduction of a third year might press hard on the financial circumstances of the teachers an alternative proposition would be to raise the standard of the entrance examination, so that after Christmas of the second year the literary and mathematical examination might be held, and the remaining six months be spent at the subjects of practical instruction, 24013-6. If neither of these suggestions could be carried out, equal prominence should be given in the existing system to the various subjects of practical instruction, 24017. Would not approve of the system followed in American training colleges, where the first year is devoted to teaching the subject matter, and the second to training the students in the art of teaching, 24018-21. Owing to the present system carried out in the colleges, unfortunately, the kindergarten course consists of making up a text-book for examination, 24025-6. All the female students in his college learn drawing, but all that is tested by the examination, is the power to draw—another result of the present system, 24027-34. The same incongruity is to be found in awarding the certificate in music, 24035-40. Dr. Doberty is Professor of Method in Marlborough-street Training College. Such professor should deal with method as regards his own particular subjects, instead of having the present distinction by which witness and other professors teach certain subjects, and Dr. Doberty subsequently ascertains the pupil's power of imparting the knowledge received, 24041-8. It is impossible to get time for any science instruction in Marlborough-street with the present crowded curriculum. Discusses particulars of hours of instruction in various subjects in Lausanne Training College. The students remain four years in the college culminating at 16 years of age. In Germany, they remain six years, in France, three years, while in Switzerland the females get only two years. Enumerates many subjects of practical instruction taken by the students in Lausanne, of which handicraft and physical and natural science are compulsory. Would advocate a complete reform in the syllabus of geography in the training colleges, on lines suggested, 24049-57. As regards science, which is not taught at all in his training college, and in the curriculum for training colleges is confined to the most advanced stage taken only by students completing for a first of first classification, a compulsory course, comprehending general principles of science should be substituted, 24063-88. In the new programme, science subjects appear for the first time, but they are not representative and do not count towards classification, 24128-33. Cannot say

TRAINING COLLEGES.—continued.

definitely how many hours a week are devoted to instruction in methods of teaching in his college, 24123-6, 24134-6. In the college there are 150 students, out of whom 136 are candidate students entered for the two years' course, while 14 are untrained teachers who have left their schools to receive the one year's training, which is the provision for untrained teachers under the Board's regulations. For the latter would recommend extension of the course to two years. The difficulty would be that they would be absent from their schools for two years. A monitor receiving an appointment as teacher ought not be permitted to take the one year's course, but should take the two years' existing course for candidate teachers, 24089-124. The number of untrained teachers in the service of the National Board is at present 6,619. During the last ten years the training colleges turned out 2,235 qualified students not previously employed as teachers; during that period the number of vacancies that had to be filled was 5,031, so that 2,796 untrained teachers had to be appointed. Agrees that since the present training college supply is quite inadequate to supply the demand for teachers, even a short course for the untrained teachers in the art of teaching would be a great advance, 24164-74.

DORSETT.

Is Principal of the Male Department of the Marlborough-street Training College. Hand and eye exercises should be introduced as a compulsory course for male and female students. There would be no difficulty in finding time in the curriculum, 24175-228. All male students should receive a course of manual instruction, but it should not be compulsory for disqualification, chiefly because of the restricted number of schools into which it can be introduced on account of its expensive nature, 24186-8. Besides mechanics, which should be compulsory for male students, some one of the experimental or natural sciences should be taken, 24204, 24209-10. Is Professor of Method in Marlborough-street Training College. "Method" comprises two things—viz., method of teaching and method of conducting a school—44, keeping the records, &c. Is relieved of the latter branch by the head masters of the annexed Model schools. A head inspector tests the competency of the students to teach the various subjects. Each individual student is not tested in all subjects. For instance, in drawing no test of the student's power to teach the subject is imposed, 24276-95. Up to this year a course of science corresponding with that comprised in Course H. of the English Code was taught to the male students in Marlborough-street. This year a deputation of students waited upon him, and pointed out that in the mathematical and science subjects the new programme was that of the Science and Art Department. The subject of mechanics would accordingly require an amount of work from them three times that which they would have to devote to plane trigonometry, and that the same applied to electricity. As it was all-important for them to pass with distinction, they petitioned that they should be allowed to take plane trigonometry in place of mechanics. That petition was granted. Practically the result of the new programme is that students can get their classification more easily by leaving out any of the many syllabuses of science instruction included in the programme. Hopes the result will only last for the present year, 24347-54. In the training colleges two, or three, at most, of the science subjects mentioned should be compulsory. In the schools, teachers should then be allowed the alternative of teaching any one of these they wished. Dissects from the objection that the alternative choice would be illusory, believes, on the contrary, that many of the Queen's Scholars would be able to teach any branch of science, with a thorough grounding in one branch and their knowledge derived from Science and Art classes. Instruction in any

TRAINING COLLEGES.—continued.

specialised branch of science would not place the pupils at a disadvantage, but, on the contrary, would be the best preparation for taking up any other branch subsequently. Would leave the teachers a latitude as to what branch they would teach, 24353-81. In Marlborough-street Training College there is no chemical laboratory and no provision for instruction in chemistry, 24393-5. Examinations in the practical teaching power of the Queen's Scholars are conducted by the head inspectors in July each year. Each Queen's Scholar, having previously selected and prepared three subjects, tenders his notes on them to the head inspector, who chooses one, in which the student then gives a model lesson. There is, in addition, a model lesson given by the student in a subject arbitrarily appointed by the inspector without previous notice, 24403-8. These lessons are given to the children in the practicing school. It is hardly desirable to set before the Queen's Scholars the idea of giving impromptu teaching. It is not consistent with the principle that they should always make a careful preparation for each lesson. Would like to see a quarter of an hour given to preparation, 24418-30.

CAMPHILL.

Gives some particulars concerning St. Patrick's Training College, Drumcondra. Although the object of training is to teach the scholars how to teach, the existing system is such that the aim is to pass examinations. Apart from the professor of method, the professors do not pay attention to the subject of method, 24431-41. The practicing schools are used as the training ground for acquiring the art of teaching. The professor of method supervises method in all subjects; it would be beneficial if each professor was made, in his own particular department, a professor of method, whilst retaining the services of the special professor of method for the work of teaching generally, 24442-64. Explains favorable conditions applying to a certain class of untrained teachers as regards obtaining the training diploma, 24465-7. Science has not been taught in his training college since the introduction of the new programme; the general feeling of the students being against it. Trigonometry is taken instead as being a subject which will prove more useful hereafter in country districts, where the teachers are often employed to survey land. Trigonometry was taught only to two pupils in all Ireland last year. The choice of the teachers is also largely influenced by the fact that the trigonometry programme is easier than the science one. Their view is that it will help them to get a classification certificate and an increase of salary. Would propose to make science a compulsory subject in the training colleges, 24468-90. Disapproves the system of conducting the model lessons given by the Queen's Scholars before the examining inspector. The option open to the students, of all sending in the same set of three lessons, is open to abuse, would prefer the arrangement mentioned as existing in Scotch colleges, 24491-501. Describes also the "impromptu lesson" test. Considers these test lessons most unsatisfactory. Would advocate a certain time being allowed beforehand to prepare the subject matter, 24502-14, 24573-80. The proportion of teachers in training to candidate teachers in training in St. Patrick's College is one-third of the entire number. Doubts that the former are placed at any disadvantage. Some of the teachers who apply are of the third class and at a preliminary examination a good number fail. An official examination should be held by the Board in the case of teachers applying for entrance to training colleges, as is the case for unqualified candidates. The lowest percentage on which entrance is permitted to St. Patrick's Training College is 67 per cent. In Baginbun-street, 50 per cent is the standard. The objection to allowing the teachers in on a lower standard is that they would not be able to fall

APPENDIX K

TRAINING COLLEGES—continued.

in to the existing classes, 24515-36. Does not consider the diploma gained by the students after two years' service, should be awarded to all who passed in method of teaching alone, 24537-41. The course in agriculture is purely theoretical, considers even this knowledge of great benefit, 24543-5. About 70 per cent. of the students take up vocal music, 24546-7. Since 1855 as many as 1,210 Queen's Scholars have been trained in St. Patrick's College. The accounts received from managers of their modes of teaching, are uniformly satisfactory, 24548-53. Since 1855 as many as 1,195 Queen's Scholars were trained in Raggot street Training College, 24554-5. In the case of Marlborough-street, the Commissioners' Training College, the inspectors are instructed to furnish lists of names of suitable students making application throughout Ireland, for admission to the college. No such provision exists for the benefit of St. Patrick's College, 24558-63. The time has now come when the classification idea should be dispensed with, and teachers from the schools should come to the college merely to acquire a superior method of teaching, 24564-6. Gives particulars as to ages and classes of students in St. Patrick's College, 24567-71, 24582-4.

PREFACE.

The standard required from the students is so much beyond their actual attainments on entering college that it is quite impossible to confine the functions of the colleges to instruction in methods of teaching, 24587-93. States the standard of proficiency which in his opinion should be expected from students on entering, 24594-9. The evaluation to obtain high classification involves method as a counting part of the result. Illustrates the small importance attached to efficiency in method of teaching in the classification of Queen's Scholars, 24600-1. In selecting principals for their schools, managers' choice should be restricted to training college graduates who have served two years as assistant teachers in National schools, 24602-4. The diploma of training is awarded on the head inspector's report of the efficiency of a teacher after two years of practical work in the schools. It has no bearing on classification, and does not affect the salaries of the teachers, while most managers are scarcely aware of its existence. Greater importance should be attached to it, 24607, 24633-7. The desire of assistants to get rapidly promoted to principalships is due to the fact that an assistant only gets the fixed assistant's salary, irrespective of the fact whether his classification be first or second class. The salary should depend on the teacher's classification, so that the only difference between his salary and that of the principal would be whatever difference is called for by a difference in duties, 24638-22. Each professor in the training college should be professor of method in the subject which he teaches, 24638-53. If the work of the training colleges were restricted to preparing the students for the office of teaching, the latter would have no chance of passing the examination, 24634-7. The colleges could do their work better if they had not to prepare the students in such an extensive programme, 24638-42. His experience is that, as regards the three subjects presented by the students, from which they give the model lesson before the visiting inspectors, the subject matter presented by two scholars is seldom, if ever, identical. Agrees that a short time should be allowed the students to prepare the superfluous lesson required, 24642-8. The teachers' classification should depend on their efficient service in the schools. That would induce them to attend more to acquiring method in the training college, 24650-5, 24670-1. Would substitute a course of science and botany underlying agriculture for the present course of agriculture, that would eliminate French and Latin from the episcopal list on the training college programme, 24661-3. Under the English and Scotch

TRAINING COLLEGES—continued.

Departments, the tests for entrance to the training colleges are similar to those of Irish colleges, with the exception of the programme in arithmetic, which is higher in the latter case, 24674-7. While the teaching is now superior to that given in the schools before the training colleges came into existence, yet the old system under which the teachers taught, it to be preferred to the Reading Free System, 24678-84, 24690-4. As professor of method in St. Patrick's College gives one hour's lecture in method to each of the three divisions in the college once a week. Considers this provision quite inadequate, 24685-9. The difficulty to having an entrance examination for teachers coming to the training colleges is the injurious effect it would have should they, having appointed a substitute in their schools, fail to qualify, 24695-8. The introductory test lesson is really only applied in elementary subjects, 24698-702. More importance should be attached to the diploma of training that teachers holding a second class diploma should be eligible for elevation to first class on manifesting increased power as teachers, 24700-6. Describes the criticism lessons which take place in St. Patrick's College, 24707-14. Drawing is not well taught in the training colleges, 24715-4. The course at the training college should be solely directed to training the teachers properly, and their subsequent advancement should be dependent on their capacity, as evidenced by their teaching in after life, 24720-4. That any teachers coming out from the training colleges fail to get appointments, results from the appointment of untrained and inexperienced assistants to teacherships. If the supply was drawn solely from the training colleges they would require to turn out 400 to 500 teachers a year, 24725-7. Approves of His Grace the Archbishop's suggested scheme of promotion and payment of teachers, viz.—that the entrance examination be the only one in the training colleges; that the end and aim of the training colleges should be to train teachers in method of teaching; that trained teachers be paid better than untrained; that length of service and work in their schools should decide teachers' promotion; certificates be given only for specialist subjects, 24738-34.

PREFACE.

If hand and eye work and manual instruction were to be introduced, the Queen's Scholars should receive courses of instruction in the training colleges, 24761-4. By reason of the exacting nature of the new programme the science subjects have been killed in the training colleges. The students take trigonometry as the optional subject. They prefer it because it is easier. To abolish the final examination for classification would do away with striving for marks in various subjects. The elimination of out-of-the-way subjects would bring the primary object of the colleges more to the front. Trigonometry should be dropped and other lessons and sciences be made compulsory, 24839-55.

TRINITY.

At present there are no fewer than seventeen compulsory subjects in the training colleges. Advanced Euclid, trigonometry, and the subjects not practically useful to teachers, should be excluded from the curriculum, and manual training substituted, 25067-8, 25102-4. The entire system of the training colleges should be remodelled to secure their work being adjusted to their aim, 25168-71.

MARSH.

Expresses surprise that teaching certificates should only certify that teachers have passed in a number of subjects. The first class teaching diploma, though ostensibly given on a two years' record of teaching, is never refused to a teacher who has received a first class certificate. The training colleges are, for the

TRAINING COLLEGES.—continued.

most part, merely guiding establishments preparing the Queen's Scholars for their examinations. Agrees with His Grace the Archbishop that it is a most unsatisfactory state of things that out of 437 Queen's Scholars only 62 are teachers awaiting themselves of the one year's course for training teachers, and that there are 4,600 teachers throughout Ireland absolutely untrained. It is very undesirable to go on training new teachers until the old ones are brought in and trained, 25273-85. Untrained teachers will not come up to the training colleges because of the inconvenience and risk in appointing substitutes in their schools; moreover they are not entirely welcome in the colleges as they are not the best material for showing results upon, 25312-6.

KILDEARE MOORE.

The new programme has been felt very severely in Kildare-place Training College. Since the College was opened in 1884, over 1,000 students were presented for examination with but 14 failures. This year, under the new programme, there were 10 failures out of 115 students presented. In the old programme there were 13 subjects for male pupils, on which a pass was compulsory, in the new programme there are 17. In the old programme there were 8 subjects for female pupils, the number is now 14. In the English programme there are only 6 subjects in which it is necessary to pass. *Erasmuses* there. Would prefer the English system, 25428-36. Believes all the training colleges are willing to co-operate with the National Board in introducing any subjects that may be thought good, 25437. An advantage of the new programme is that method of teaching enters into the qualification for the certificate, but owing to the lack of work to be got over, it is still mainly a preparation for an examination. In his college, aims to advance students who show ability to teach, 25438-41. The handicraft programme has been largely taken up by the students in Kildare-place Training College. It is not educational, not being founded on drawing. Intended introducing manual instruction into the college, but found it impossible on account of the overcrowded curriculum, 25442-6. In the colleges no effort is made to train the teacher in method of teaching drawing, and the black board is not used, 25447-8. Agrees that the whole system of the National Board makes it necessary to give an undue amount of time to the work of teaching the students as distinct from the work of training them in the art of teaching, 25501-7. The Results Fees System does not directly affect the training colleges, but the conditions under which the classification certificates are awarded, and that on which the bonus of £14 or £30 is awarded to the training colleges on the part students, are elements of the system which react unfavourably on the colleges, 25435-6, 25508-18. Prefers the new programme to the old, comparing them on their merits. Considers the shortcomings of the former were such as the Commissioners could not have anticipated, 25518-27. Approves of new programme in as far as teaching, penmanship, English composition, and method of teaching are made compulsory subjects. The mathematical subjects—algebra, geometry, and mensuration—should not be compulsory; book-keeping should not be compulsory. As to these mathematical subjects, the proper principle would be that while students should be compelled to take them up, failure in any one of them should not entail loss of the examination. This would apply to the leaving examination, not to the entrance examination, for when candidates enter it is a fair time to reject those not qualified, 25559-89. Science teaching has been killed in the training colleges by the new programme. To introduce it into the schools, a course must be introduced as compulsory in the training colleges, 25583-87. In connection with Marlborough-street Training College the inspectors recommended the candidate students. This is not done for any of the denominational col-

TRAINING COLLEGES.—continued.

leges, which leads to the necessity of extensive advertising and communication with the country clergy with a view to securing candidates, 25598-608, 25630-8. In the Marlborough-street College there are a staff of specialist training assistants to assist the students in their studies in the evening. Some of the denominational colleges have these officers, 25605-7. In Marlborough-street some members of the protestantism are personable. This is not the case in any of the denominational colleges, 25608-9. There would be no difficulty in arranging short courses for entrained teachers to be held in the training colleges, if additional State aid were given, 25610-7. At present the teachers come to the training colleges with a view to the classification certificates. To restrict the functions of the college to training in the art of teaching, would be a radical change. If they were devoted exclusively to this end, and training were not compulsory, a large number of teachers would never dream of coming to them, 25628-31. More importance should be attached to the training diploma. In England the two satisfactory reports requisite before giving this diploma, are issued under two years; in Ireland they are never issued by the Education Office until two years have passed, and frequently not until after a number of years. Has sometimes applied five times without receiving any information as to why they were withheld. Considers it would be of great assistance if a report were sent to the colleges in the same manner as it is sent to the managers, 25632-8. Would be satisfied with a report furnished on the basis suggested by His Grace the Archbishop, 25672-4. Attributes the failure of so many students this year at the examinations to the fact that in the mathematical papers all the questions were of equally high standard, while formerly half were drawn on a lower standard, which enabled those weak in the subject to pass, 25639-64. Under the new programme the students in Kildare-place take trigonometry instead of science, the science course laid down being wholly and entirely out of the question. If taken up failure would be absolutely assured, 25677-3. The inspectors are not sufficiently in touch with the training colleges. They ought to visit the colleges, see the criticism lessons and interchange ideas with the masters and mistresses of method, 25449-50. This is not very easy to accomplish under the Results Fees System, 25479-82. If the old system by which the inspectors were bound to visit the training colleges frequently were reverted to it would be for the mutual benefit of the colleges and inspectors, 25618-24. Mentions the practical benefits which would accrue from frequent visits of the inspectors to the training colleges. Does not agree with the contention that the fact of the colleges in question being denominational should disentitle them from such benefits, 25645-71.

PUNNET.

It is an unfortunate result of the new programme that science has been dropped altogether in the colleges. Suggests as a remedy that failure in some of the compulsory subjects should not disqualify, 25694-715. The standard for the entrance examination might be raised, especially in English; book-keeping might be optional, and students might be allowed to qualify while failing in a certain number of subjects, which is the system followed in the English and Continental colleges, 25739-8.

STEELE.

In the examinations this year a high standard was adopted in drawing up the papers, and equal marks were awarded on the two questions. In former years half the questions were easy, so that a candidate not well informed on the subjects might pass, 25849-54. The classification of teachers should depend, not on examination, but on the results of their work in the schools after they leave the training college, 25878-81.

APPENDIX F.

APPENDIX F.

PROCEEDINGS OF THE COMMISSION.

[BEING A SUMMARY OF THE SECRETARY'S MINUTES.]

FIRST MEETING.

Saturday, January 30, 1897.

The Commission met at 11.30 a.m. at the Office of the Board of National Education, Macfarlane-street, Dublin.

Present.—The Right Hon. the Earl of BELMONT, G.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D., the Right Hon. C. Palles, LL.D., Lord Chief Baron of the Exchequer; the Right Hon. C. T. Redington, M.A.; the Right Rev. Monsignor Molloy, D.D., D.C., Rev. Henry Evans, D.D., Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, M.C.D., and Mr. W. R. J. Malloy,

with Mr. J. D. Daly, *Secretary*.

Copies of His Excellency's Warrant appointing the Commission, dated Jan. 25, 1897, were laid on the table.

The Commission discussed the course of their procedure, and it was agreed to examine, in the first instance, some of the Officials of the Board of National Education, with a view to ascertain what amount of Manual and Practical Instruction is at present given in the National Schools; and afterwards to inquire what is done in the same direction in other countries.

It was decided to inform the Press that the Commission would be glad to receive from any persons practically acquainted with the working of Primary Schools, suggestions upon any matter within the scope of the Commission.

It was decided that the meetings of the Commission for the examination of witnesses should be open to the public.

Mr. Charles Ryan was appointed *Shorthand Writer* to the Commission.

The Commission adjourned at 1.30 o'clock.

BELMONT,

30th February, 1897.

SECOND MEETING.

(FIRST PUBLIC SITTING.)

Thursday, February 4, 1897.

The Commission met at 11 a.m. in the Royal University, Dublin.

Present.—The Right Hon. the Earl of BELMONT, G.C.M.G., in the chair, His Grace the Most Rev. the Lord Plunket, His Grace the Most Rev. William J. Walsh, D.D., the Right Hon. C. T. Redington, M.A., the Right Rev. Monsignor Molloy, D.D., D.C.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D., Mr. Stanley Harrington, M.A.; Mr. W. R. J. Malloy, and Captain T. B. Shaw,

with Mr. J. D. Daly, *Secretary*.

The Commission dealt with the correspondence: the doors were then opened and the public admitted. The following witnesses were examined:—

1. Alexander Hamilton, M.A., Chief of Inspection under the Board of National Education.
2. Edmund Downing, Chief of Inspection under the Board of National Education.

The Commission adjourned at 2.15 o'clock.

BELMONT,

30th February, 1897.

THIRD MEETING.

(SECOND PUBLIC SITTING.)

Friday, February 5, 1897.

The Commission met at 3 p.m. in the Royal University, Dublin.

Present:—The Right Hon. the Earl of BELMORE, G.C.M.G., in the chair; His Grace the Most Rev. the Lord Plunket; His Grace the Most Rev. WILLIAM J. WALSH, D.D., the Right Hon. C. FOLLEN, M.P., Lord Chief Baron of the Exchequer, the Right Hon. C. T. RODGINGTON, M.A.; the Right Rev. Monsignor MOLLOY, D.D., D.S.O.; Rev. Henry EVANS, M.A.; Rev. Hamilton WILSON, D.D.; Professor G. F. FITZGERALD, F.R.C.D.; Mr. Stanley HARRINGTON, M.A.; Mr. W. R. J. MOLLOY; and Captain T. B. SHAW;

with Mr. J. D. DALY, Secretary.

It was decided that the Commission should visit some of the Provincial centres for the purpose of taking evidence, and that a notice of their intention should be sent to the Press.

The doors having been opened and the public admitted, the following witnesses were examined:—

1. Alfred PARSON, Head Inspector of National Schools.
2. Samuel E. STRONGE, M.A., Head Inspector of National Schools.

The Commission adjourned at 5 o'clock.

BELMORE,

5th February, 1897.

FOURTH MEETING.

(THIRD PUBLIC SITTING.)

Saturday, February 6, 1897.

The Commission met at 11 a.m. in the Royal University, Dublin.

Present:—The Right Hon. the Earl of BELMORE, G.C.M.G., in the chair; His Grace the Most Rev. the Lord Plunket; His Grace the Most Rev. WILLIAM J. WALSH, D.D., the Right Hon. C. FOLLEN, M.P., Lord Chief Baron of the Exchequer, the Right Hon. C. T. RODGINGTON, M.A.; the Right Rev. Monsignor MOLLOY, D.D., D.S.O.; Rev. Henry EVANS, D.D.; Rev. Hamilton WILSON, D.D.; Professor G. F. FITZGERALD, F.R.C.D.; Mr. Stanley HARRINGTON, M.A.; Mr. W. R. J. MOLLOY; and Captain T. B. SHAW;

with Mr. J. D. DALY, Secretary.

The doors having been opened and the public admitted, the following witness was examined:—
THOMAS CARROLL, M.R.I.A., Agricultural Superintendent, Albert Farm, Glasnevin.

At a quarter past one, Mr. Carroll's examination not yet being concluded, the further examination of witnesses was postponed, and the Commissioners resumed the consideration of certain matters of procedure.

The Commission adjourned at 2.30 o'clock.

BELMORE,

12th February, 1897.

FIFTH MEETING.

Thursday, February 18, 1897.

The Commission met at 11 a.m., at the Ancient Concert Rooms, Dublin.

Present:—The Right Hon. the Earl of BELMORE, G.C.M.G., in the chair; The Right Hon. C. FOLLEN, M.P., Lord Chief Baron of the Exchequer, the Right Hon. C. T. RODGINGTON, M.A.; His Honour Judge SHAW, Q.C., M.P., the Right Rev. Monsignor MOLLOY, D.D., D.S.O.; Rev. Henry EVANS, D.D.; Rev. Hamilton WILSON, D.D.; Mr. Stanley HARRINGTON, M.A.; Mr. W. R. J. MOLLOY; and Captain T. B. SHAW;

with Mr. J. D. DALY, Secretary.

The Commission dealt with the correspondence. It was decided that the Commission should visit London, Birmingham, and Liverpool, and certain rural districts in the North of England, in March next, the exact date to be fixed at a subsequent meeting.

Monsignor Molloy moved on behalf of His Grace the Most Rev. Dr. Walsh:—

- "That a circular be sent to each Head and District Inspector of the National Education Board, asking whether in his opinion, any portion of the present programme of compulsory subjects could, without serious disadvantage, be modified either—(a) by making any subject optional, or (b) by making it optional in some classes or classes in which it is now compulsory, or (c) by providing that a shorter time should be given to it than is now given."

The paragraph (c) having been altered by the insertion of the words "in each week" after the word "time" and before the word "should," the motion was agreed to.

The Commission adjourned at 1 o'clock.

BELMORE,

19th February, 1897.

SIXTH MEETING.

(FOURTH PUBLIC SITTING.)

Friday, February 19, 1897.

The Commission met at 3 p.m., at the Ancient Concert Rooms, Dublin.

Present.—The Right Hon. the Earl of BELMORE, G.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., LL.D.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.S.E.; Mr. Stanley Harrington, B.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers.

with Mr. J. D. Daly, *Secretary*.

The Commission considered the arrangements for their visit to England.

The Commission considered a notice as to their procedure, which was drafted at the last meeting.

It was agreed that the notice should be as follows—

"Procedure of the Commission."

"1. To continue their inquiry into the present state of Practical and Manual Instruction in Primary Schools under the Board of National Education in Ireland.

2. To inspect the working of systems of Manual and Practical Instruction in other Primary Schools in Ireland and elsewhere, to take evidence from organisers, managers, and teachers; and to inquire into the cost of the systems. Under this heading the Commissioners propose, in the first instance, to inquire into the systems at present in operation in England, beginning with Birmingham and London. The inquiry will extend to schools in certain rural districts in England.

3. To take the evidence of managers, teachers, and others, as to the best combination of practical with literary work, to secure a thorough primary education.

4. To inquire as to the utility of the several obligatory and optional subjects now taught in National schools in Ireland, and to consider how the present curriculum may be modified, (a) by the elimination of those subjects, if any, which may appear not to be of sufficient educational value, and of those more properly belonging to secondary education, (b) by the introduction of Manual and Practical Instruction.

5. To consider the present system of payment of teachers, and its effects on the instruction of particular subjects.

6. Having decided on desirable alterations, to inquire as to (a) training and best method of imparting instruction to teachers, and (b) the most economical methods of efficiently introducing the necessary changes.

As it is not the object of primary education to teach particular arts or trades, the inquiry of the Commission will be confined to that general training of the hand and eye which, though not directly connected with any occupation, stands in a useful relation to all."

It was ordered that copies of this notice should be sent to the Press.

The doors having been opened, and the public admitted, the following witnesses were examined:—

1. THOMAS CARROLL, M.R.S.A., Agricultural Superintendent, Albert Farm, Glasnevin. (Examination concluded).

2. J. P. MORRIS, Teacher of Drawing in Marlborough-street Training College, and in the Central Model School, Dublin.

The Commission adjourned at 6 o'clock.

BELMORE,

20th February, 1897.

SEVENTH MEETING.

(FIFTH PUBLIC SITTING.)

Saturday, February 20, 1897.

The Commission met at 11 a.m. at the Ancient Concert Rooms, Dublin.

Present.—The Right Hon. the Earl of BELMORE, G.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., LL.D.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.S.E.; Mr. Stanley Harrington, B.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers.

with Mr. J. D. Daly, *Secretary*.

The Commission dealt with the correspondence: the doors were then opened, and the public admitted. The following witnesses were examined:—

1. JOHN COOKE, M.A., Professor in the Church of Ireland Training College, Kildare-place, Dublin.

2. MISS PRINDLERGUTH, Directress of Needlework under the Board of National Education in Ireland.

The Commission adjourned at 1.30 o'clock.

BELMORE,

25th February, 1897.

EIGHTH MEETING.

(SIXTH PUBLIC SITTING.)

Thursday, February 25, 1897.

The Commission met at 11 a.m. at the Ancient Concert Rooms, Dublin.

Present.—The Right Hon. the Earl of BELMORE, O.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., LL.D.; the Right Rev. Monsignor Molloy, D.D., D.S.C.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. W. R. J. Molloy; and Captain T. B. Shaw;

with Mr. J. D. Daly, Secretary.

The Commission dealt with the correspondence: the doors were then opened, and the public admitted. The following witnesses were examined:—

1. Miss A. M. Kenny, Organising Teacher under the Board of National Education.
2. P. W. Joyce, LL.D., late Professor and Principal of Marlborough-street Training College, Dublin.

The Commission adjourned at 1.30 o'clock.

BELMORE,

25th February, 1897.

NINTH MEETING.

(SEVENTH PUBLIC SITTING.)

Friday, February 26, 1897.

The Commission met at 3 p.m. at the Ancient Concert Rooms, Dublin.

Present.—The Right Hon. the Earl of BELMORE, O.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., LL.D.; the Right Rev. Monsignor Molloy, D.D., D.S.C.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.S.; Mr. W. R. J. Molloy; and Captain T. B. Shaw;

with Mr. J. D. Daly, Secretary.

The Commission dealt with correspondence: the doors were then opened and the public admitted. The following witnesses were examined:—

1. P. W. Joyce, LL.D. (examination concluded)
2. Miss M. Daly, Professor of Kindergarten, History, and Geography at Baginbun Training College, Dublin.
3. P. Beetsom Foy, Professor of Drawing at St. Patrick's Training College, Drumcondra.
4. P. Goodman, Examiner in Music to the Board of National Education.

The examination of witnesses having concluded, the Commissioners discussed the advisability of publishing the evidence from time to time.

As the matter was one in which a wide interest was taken in this country, and as it would materially assist them to keep the public informed of the progress of their inquiry, they decided to present to the Lord Lieutenant the minutes of the evidence from time to time, in order that His Excellency might authorize its publication. For the purpose of presenting the evidence taken at the first seven Public Sittings, the Commissioners drew up their first report.

The Commission adjourned at 6 o'clock.

BELMORE,

18th March, 1897.

TENTH MEETING.

Tuesday, March 16, 1897.

The Commission met at 10 a.m. at the Queen's Hotel, New-street, Birmingham.

Present.—The Right Hon. the Earl of BELMORE, O.C.M.G.; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.S.; Mr. Stanley Harrington, B.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Sturthers, B.A.;

with Mr. J. D. Daly, Secretary.

The Commissioners proceeded at 10.15 to Stratford Road Board School, to inspect Hand and Eye Training Classes.

In the afternoon they visited Kindergarten Classes at City Road Board School.

In the evening, at 7.30 p.m., they were present at a lesson to teachers by Mr. Davis, in Floodgate Street Board School.

BELMORE,

18th March, 1897.

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Appendix B.

ELEVENTH MEETING.

Wednesday, March 17, 1897.

The Commission met at 10 A.M. at the Queen's Hotel, New-street, Birmingham.

Present:—The Right Hon. the Earl of BELMONT, G.C.M.G.; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.S.; Mr. Stanley Harrington, M.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, D.A.;

with Mr. J. D. Daly, *Secretary*.

The Commissioners proceeded at 10.30 A.M., to Ren-street Board School, to inspect Hand and Eye Training in the Standards.

In the afternoon, Dudley Road Board School was visited, and a woodwork centre there inspected.

In the evening the Birmingham Technical School was visited.

BELMONT,
18th March, 1897.

TWELFTH MEETING.

(EIGHTH PUBLIC SITTING.)

Thursday, March 18, 1897.

The Commission met at 10 A.M., at the Queen's Hotel, New-street, Birmingham.

Present:—The Right Hon. the Earl of BELMONT, G.C.M.G. in the chair; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.S.; Mr. Stanley Harrington, M.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, D.A.;

with Mr. J. D. Daly, *Secretary*.

The following witnesses were examined:—

1. A. W. Bevis, Director of Manual Training to the Birmingham School Board.
2. Edward R. Taylor, Head Master of the Birmingham Municipal School of Art.
3. G. H. Robinson, Head Master of the Ren-street, South, Board School.
4. J. Taylor, Head Master of the Stratford Road Board School.

The Commission adjourned at 3.45 o'clock.

BELMONT,
20th March, 1897.

THIRTEENTH MEETING.

Friday, March 19, 1897.

The Commission met at 10.15 A.M., at Aldgate Station, London.

Present:—The Right Hon. the Earl of BELMONT, G.C.M.G.; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; the Right Rev. Monsignor Molloy, D.D., D.C.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.S.; Mr. Stanley Harrington, M.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, D.A.;

with Mr. J. D. Daly, *Secretary*.

The Commissioners proceeded to Rutland-street School, Whitechapel, where they inspected experimental science classes under Mr. Heller; afterwards they visited Mr. Heller's Laboratory, in Berners-street, where an explanation was given by Mr. Heller of the system of experimental science teaching in certain primary schools under the London School Board.

In the afternoon the Commissioners visited the Trench-street Schools, Lambeth, in Whitechapel, and saw the system of teaching drawing throughout the Standards. The Head Master of the Alma School was present with specimens of bookwork done at his School.

BELMONT,
20th March, 1897.

FOURTEENTH MEETING.

(NINTH PUBLIC SITTING.)

Saturday, March 20, 1897.

The Commission met at 10 a.m., at the Examination Hall, Victoria Embankment, London.

Present.—The Right Hon. the Earl of BELMORE, G.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.D.; Mr. Stanley Harrington, B.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, B.A.;

with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. Henry E. Armstrong, Professor of Chemistry in the City and Guilds of London Institute.

2. W. Mayhew Haller, Science Demonstrator to the School Board for London.

The Commission adjourned at 2 o'clock.

✠ WILLIAM J. WALSH,

Archbishop of Dublin,

Chairman.

23rd March, 1897.

FIFTEENTH MEETING.

Monday, March 22, 1897.

The Commission met at 10.30 a.m., at the Hugh Myddelton Board School, Clerkenwell, London.

Present.—The Right Hon. The Earl of BELMORE, G.C.M.G.; His Grace The Most Rev. William J. Walsh, D.D.; The Right Hon. C. T. Redington, M.A.; The Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.D.; Mr. Stanley Harrington, B.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, B.A.;

with Mr. J. D. Daly, Secretary.

At the Hugh Myddelton Board School, Clerkenwell, the Commissioners inspected Cookery, Laundry-work, and Needlework classes.

In the afternoon, the Commissioners proceeded to Haselrige Road Board School, Clapham, S.W., and inspected the Woodwork centre there. Mr. Barker, organizer of Manual Training to the School Board for London, was present, and explained the working of the system employed.

✠ WILLIAM J. WALSH,

Archbishop of Dublin,

Chairman.

23rd March, 1897.

SIXTEENTH MEETING.

(TENTH PUBLIC SITTING.)

Tuesday, March 23, 1897.

The Commission met at 10 a.m., at the Examination Hall, Victoria Embankment, London.

Present.—His Grace the Most Rev. WILLIAM J. WALSH, D.D., in the chair; The Right Hon. C. T. Redington, M.A.; His Honour Judge SHAW, Q.C., L.D.; The Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.D.; Mr. Stanley Harrington, B.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, B.A.;

with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. Sir Philip Magnus, President of the City and Guilds of London Institute.
2. Hon. E. Evelyn Stanley, Member of the School Board for London.

The Commission adjourned at 3 o'clock.

✠ WILLIAM J. WALSH,

Archbishop of Dublin,

Chairman.

24th March, 1897.

SEVENTEENTH MEETING.

(ELEVENTH PUBLIC SITTING.)

Wednesday, March 24, 1897.

The Commission met at 10 a.m., at the Examination Hall, Victoria Embankment, London.
 Present:—His Grace the Most Rev. WILLIAM J. WALSH, D.D., in the chair; the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., M.D.; The Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.S.; Mr. Stanley Harrington, B.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, B.A.,

with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. J. B. Diggle, M.A., Member of the School Board for London.
2. S. Barter, Organiser of Manual Instruction to the School Board for London.

In the afternoon the Commissioners visited the Westminster Training College.

The Commission adjourned at 3.30 o'clock.

✠ WILLIAM J. WALSH,
 Archbishop of Dublin,
 Chairman,
 25th March, 1897.

EIGHTEENTH MEETING.

(TWELFTH PUBLIC SITTING.)

Thursday, March 25, 1897.

The Commission met at 10 a.m., at the Examination Hall, Victoria Embankment, London.
 Present:—His Grace the Most Rev. WILLIAM J. WALSH, D.D., in the chair; the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., M.D.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.S.; Mr. Stanley Harrington, B.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, B.A.,

with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. T. G. Rooper, One of Her Majesty's Inspectors of Schools in England.
2. Rev. C. D. De Port, One of Her Majesty's Chief Inspectors of Schools in England.
3. C. A. Beckwith, M.A., Inspector of Schools under the Science and Art Department.

In the afternoon, a visit was paid to the Haringey Board School, Proletarian Road, Haringey, where the Woodwork classes were inspected.

A visit was also paid to the Strand Green Board School, where Paperwork and Woodwork classes were inspected.

In consequence of the illness of His Grace the Most Rev. the Lord Plunket, the Secretary was directed to telegraph to the Rev. Mr. Collins, His Grace's Secretary, and to make inquiries concerning His Grace's condition.

The Commission adjourned at 4.30 o'clock.

✠ WILLIAM J. WALSH,
 Archbishop of Dublin,
 Chairman,
 26th March, 1897.

NINETEENTH MEETING.

(THIRTEENTH PUBLIC SITTING.)

Friday, March 26, 1897.

The Commission met at 10 a.m., at the Examination Hall, Victoria Embankment, London.
 Present:—His Grace the Most Rev. WILLIAM J. WALSH, D.D., in the chair; the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., M.D.; The Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.S.; Mr. Stanley Harrington, B.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, B.A.,

with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. John Cooke, Hon. Secretary, Boys' Association for Great Britain and Ireland.
2. Joseph Vaughan, Organising Teacher of Hand and Eye Training to the School Board for London.

3. Alfred Percival Graves, One of Her Majesty's Inspectors of Schools in England.
4. Mrs. Homan, Member of the School Board for London.
5. Mrs. Lord, Organizing Superintendent of Laundry-work, &c., under the School Board for London.

APPENDIX F

In the morning, the Commissioners visited Abbey-street School, Bethnal Green, and inspected classes in Housewifery, Laundry-work, and Cookery. Mrs. Lord, the Superintendent of Instruction in Laundry-work, was present, and also Mrs. Homan.

The Commission adjourned at 5 o'clock.

✚ WILLIAM J. WALSH,
Archbishop of Dublin,
Chairman.
27th March, 1897.

TWENTIETH MEETING.

(FOURTEENTH PUBLIC SITTING).

Saturday, March 27, 1897.

The Commission met at 10 a.m. at the Examination Hall, Victoria Embankment, London.

Present:—His Grace the Most Rev. WILLIAM J. WALSH, D.D., in the chair; The Right Hon. C. T. Bodington, M.A.; His Honour Judge Shaw, Q.C., LL.D.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.D., Mr. W. R. J. Molloy; Captain T. B. Shaw, and Mr. J. Struthers, M.A.;

with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. Sir Joshua Fitch, M.D.
2. J. C. Hudson, Superintendent of Educational Handwork for the School Board for Herts.
3. Ebenezer Cooke.

The Commission adjourned at 3.30 o'clock.

BELMONT.
March 27th, 1897.

TWENTY-FIRST MEETING.

(FIFTEENTH PUBLIC SITTING).

Monday, March 29, 1897.

The Commission met at 10 a.m. at the North-Western Hotel, Liverpool.

Present:—The Right Hon. the Earl of BELMONT, G.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, M.A.; the Right Hon. C. T. Bodington, M.A.; His Honour Judge Shaw, Q.C., LL.D.; The Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.D.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, M.A.;

with Mr. J. D. Daly, Secretary.

The Commission proceeded to the Municipal Offices, Liverpool, and sat in the School Board Committee Room.

The following witnesses were examined:—

1. William Oulton, J.P., Vice-Chairman of the Liverpool School Board, and Chairman of the School Management Committee of the Board.
2. Edward M. Hance, Clerk to the Liverpool School Board.
3. Hugh Gordon, Inspector of Schools under the Science and Art Department.
4. Miss Fanny Calder, Hon. Secretary of the Liverpool Technical College for Women.

In the evening, the Commissioners visited the Heyworth-street Board School Evening Classes, for the purpose of witnessing Science Instruction, &c.

The Commission adjourned at 5 o'clock.

✚ WILLIAM J. WALSH,
Archbishop of Dublin.
March 30th, 1897.

TWENTY-SECOND MEETING.

(SIXTEENTH PUBLIC SITTING).

Tuesday, March 30, 1897.

The Commission met at 10 a.m., at the North-Western Hotel, Liverpool.

Present:—The Right Hon. The Earl of BIRMINGHAM, G.C.M.G.; His Grace the Most Rev. William J. Walsh, D.D., the Right Hon. C. T. Redington, M.A., His Honour Judge Shaw, Q.C., M.D., the Right Rev. Monsignor Malley, D.D., M.A., Rev. Henry Evans, D.D., Rev. Hamilton Wilson, D.D., Professor G. F. Fitzgerald, F.R.C.S.; Mr. W. R. J. Molloy; Captain T. B. Shaw, and Mr. J. Struthers, M.A.,

with Mr. J. D. Daly, Secretary.

It was arranged that certain Commissioners should proceed to the School Board Offices and take evidence, and that the other Commissioners should visit the schools suggested by the School Board.

The following were present at the School Board Offices:—

His Grace the Most Rev. WILLIAM J. WALSH, D.D. in the chair, the Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Mr. W. R. J. Molloy, and Captain T. B. Shaw,

with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. A. T. Bost, M.A., Senior Inspector of Schools to the Liverpool School Board.

2. William Hewitt, D.Sc., Director of Technical Instruction to the Liverpool City Council.

The Commission adjourned the taking of evidence at 12.45 o'clock.

During the day the following schools were visited:—

1. Queen's-road Board School (Kindergarten).

2. Venice street Board School (developed Kindergarten and a Class in Cookery).

3. Orwell-street Centre, where the following classes were inspected:—(a) Cookery and Laundrywork, (b) Woodwork, (c) Metal Work, (d) Machine Drawing, (e) Clay Modelling. Mr. Pearson, the Board's Director of Manual Instruction, was present, and explained the system of instruction.

4. The Pupils' Teachers' College, Shaw-street, where the various evening classes were inspected. Miss Tucker, the Board's Inspector of Schools, was present.

BIRMINGHAM,

1st April, 1897.

TWENTY-THIRD MEETING.

Wednesday, March 31, 1897.

The Commission met at 10 a.m. at the North-Western Hotel, Liverpool.

Present:—The Right Hon. The Earl of BIRMINGHAM, G.C.M.G.; His Grace the Most Rev. William J. Walsh, D.D., the Right Hon. C. T. Redington, M.A.; the Right Rev. Monsignor Malley, D.D., M.A.; Rev. Henry Evans, D.D., Rev. Hamilton Wilson, D.D., Professor G. F. Fitzgerald, F.R.C.S.; Captain T. B. Shaw; and Mr. J. Struthers, M.A.;

with Mr. J. D. Daly, Secretary.

The Earl of Birmingham and Captain Shaw proceeded to Dutton Hall School, near Widnes, and inspected the Manual Instruction classes there. The other Commissioners proceeded to Pleasant-street Board School, and inspected the Board's Distributing Centre, and in the Board School Hall, inspected classes where science object lessons were being given; they also saw the higher standards receiving specific subject instruction. Afterwards the Commissioners visited Rabbons Board School, and saw science instruction being given to extended scholars. The lower standards were also inspected.

In the afternoon the Commissioners went to Basse-street organized science school. Classes in woodwork and metal work were inspected, as well as the science classes for boys and girls.

The Commissioners then proceeded to the University College, and inspected the arrangements there for training teachers of elementary schools, as instructors in manual training.

BIRMINGHAM,

1st April, 1897.

TWENTY-FOURTH MEETING.

APPENDIX F.

(SEVENTEENTH PUBLIC SITTING.)

Thursday, April 1, 1897.

The Commission met at 10.30 a.m. at the Municipal Offices, Liverpool.

Present.—The Right Hon. the Earl of BELMONT, G.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.S., Captain T. B. Shaw; and Mr. J. Struthers, B.A.;

with Mr. J. D. Daly, Secretary.

The following witnesses were examined.—

1. J. C. Pearson, Director of Manual Instruction to the Liverpool School Board.
2. Joseph Lomas, Science Instructor to the Liverpool School Board.
3. R. Nixon, Principal, Brice-street Board School, Liverpool.
4. William Nelson, Superintendent of Manual Instruction to the Manchester School Board.

In the morning, a visit was paid to Notre Dame Training College, Mount Pleasant, Liverpool. The following Commissioners visited the College.—

The Right Hon. the Earl of BELMONT, G.C.M.G.; the Right Hon. C. T. Redington, M.A.; the Right Rev. Monsignor Molloy; Professor G. F. Fitzgerald.

Afterwards Mr. Redington and Monsignor Molloy visited the Girls' School of Domestic Science, 4 Prince's-road. Miss Fanny Calder, President of the Northern School of Cookery, was present. The Commissioners inspected the classes at work, and the arrangements for teaching Home-science.

At three o'clock, while the Commission was sitting at the Municipal Buildings, the death of His Grace the Most Rev. the Lord Plunket was announced. The following resolution was proposed by His Grace the Most Rev. Dr. Walsh, and seconded by Professor George F. Fitzgerald.—

"That the Commission on Manual and Practical Instruction, at present sitting in Liverpool, have heard with deep regret of the death of their valued colleague, Lord Plunket, Archbishop of Dublin, and desire to express their sense of the loss they have sustained, and their sympathy with his family in their bereavement."

The Secretary was directed to telegraph this Resolution to Rev. Mr. Collins.

The Commission adjourned at 4 o'clock.

BELMONT,

2nd April, 1897.

TWENTY-FIFTH MEETING.

(EIGHTEENTH PUBLIC SITTING.)

Friday, April 2, 1897.

The Commission met at 10.30 a.m. in the Grand Jury Room, Carlisle.

Present.—The Right Hon. the Earl of BELMONT, G.C.M.G., in the chair, the Right Hon. C. T. Redington, M.A., the Right Rev. Monsignor Molloy, D.D., D.Sc., Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.S., Captain T. B. Shaw; and Mr. J. Struthers, B.A.;

with Mr. J. D. Daly, Secretary.

The following witnesses were examined.—

1. C. Constaney Hodgson, Organising Secretary to the Cumberland County Council.
2. J. W. Slater, Director of Art and Manual Instruction to the Cumberland County Council.
3. Dr. William Somerville, Professor of Agriculture and Forestry, Durham College of Science.
4. Arthur B. Bernays, One of His Majesty's Inspectors of Schools in England.

In the afternoon Professor Fitzgerald and Mr. Struthers visited Hudsway School, Catterline, a rural school in which there is but one teacher, and inspected a class in woodwork.

The Commission adjourned at 4.30 o'clock.

BELMONT,

5th April, 1897.

TWENTY-SIXTH MEETING.

(NINETEENTH PUBLIC SITTING.)

Saturday, April 5, 1897.

The Commission met at 9.30 a.m., at the County and Station Hotel, Ouliffe.

Present:—The Right Hon. the Earl of BELMONT, C.M.G., in the chair; the Right Hon. C. T. Redington, M.A., the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Hamilton Wilson, D.D., Professor G. F. Fitzgerald, F.R.C.S.; Captain T. B. Shaw, and Mr. J. Struthers, M.A.;

with Mr. J. D. DALY, Secretary.

The Commissioners proceeded to Penrith, and inspected the Penrith Technical School, and saw a class in woodwork for teachers.

Subsequently the Commissioners proceeded to the County Council School Farm, Newton Bigg, where they were received by Mr. Frederick Puschard, Chairman of the Governors of the School.

The farm having been inspected, the following witnesses were examined:—

1. W. T. Lawrence, Agricultural Lecturer to the Cumberland County Council, and Manager of the Newton Bigg School Farm.

2. Frederick Puschard, Chairman of the Governors of Newton Bigg Farm School, Penrith.

The Commission adjourned at 1.45 o'clock.

BELMONT,

5th April, 1897.

TWENTY-SEVENTH MEETING.

Monday, April 5, 1897.

The Commission met at 10 a.m., at Rigg's Hotel, Windermere.

Present:—The Right Hon. the Earl of BELMONT, C.M.G., in the chair; the Right Hon. C. T. Redington, M.A.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.S.; Captain T. B. Shaw, and Mr. J. Struthers, M.A.;

with Mr. J. D. DALY, Secretary.

It was decided that the thanks of the Commission be given to the various School Boards who kindly offered facilities for the inspection of schools under their control. With a view to this, the following resolution was proposed by the Right Hon. C. T. Redington, seconded by Professor G. F. Fitzgerald, and passed unanimously:—

"That the sincere thanks of the Commission on Manual and Practical Instruction in Primary Schools (Ireland) be given to the School Boards for the valuable aid they have given in providing facilities for the inspection of schools and for the reception of evidence, and to their various officers for their cordial co-operation."

The Commissioners proceeded to Kendal, and inspected the Technical School there. Mr. Gillies, Chairman of the Technical Education Committee, and Mr. Betenson, Organizing Secretary, were present. His Grace the Most Rev. Dr. Walsh, joined the Commissioners at Kendal. Subsequently the Commissioners drove to the Westmorland County Council's Experimental Plots, visiting first the Plot at Levens, and afterwards the Plot at Well Heads. Mr. Gillies, Mr. Betenson, and Mr. Puschard accompanied the Commissioners, and explained the working of these Experimental Plots.

BELMONT,

6th April, 1897.

TWENTY-EIGHTH MEETING.

(TWENTIETH PUBLIC SITTING.)

Tuesday, April 6, 1897.

The Commission met at 10 a.m., at the Town Hall, Kendal.

Present:—The Right Hon. the Earl of BELMONT, C.M.G., in the chair, His Grace the Most Rev. William Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.S.; Captain T. B. Shaw, and Mr. J. Struthers, M.A.;

with Mr. J. D. DALY, Secretary.

The following witnesses were examined:—

1. Gilbert Gillies, Chairman of the Committee on Technical Education of the Westmorland County Council.

2. James Bauman, Organizing Secretary to the Westmorland County Council.

3. John Chalcraft, Head Master, Burton School, Westmorland.

4. J. H. Glaisdale, D.Sc., F.R.S.

5. Arthur E. Bernays, recalled and further examined.

The Commission adjourned at 4 o'clock.

BELMONT,

7th April, 1897.

TWENTY-NINTH MEETING.

Wednesday, April 7, 1897.

The Commission met at 9 a.m. at the Furness Abbey Hotel.

Present.—The Right Hon. the Earl of BELMONT, G.C.M.G.; His Grace the Most Rev. William J. Walsh, D.D.; the Right Rev. Monsignor Molloy, D.D., D.M.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.S.; Captain T. B. Shaw; and Mr. J. Strathern, M.A.;

with Mr. J. D. Daly, Secretary.

The Commission proceeded to Barrow-in-Furness, where the following schools were inspected.—

1. Holker-street Junior Mixed School; Manual Instruction throughout the Standards.
2. Rawlinson-street School, where the following Classes were seen:—
 - (a.) A Class in Practical Laundry work in a specially equipped laundry.
 - (b.) A Class in Cookery in an ordinary School Class room.
 - (c.) Infant Classes performing Kindergarten exercises, and Girls' Classes at Needlework.
3. In the afternoon, Higher Grade School, Duke-street, where the Commissioners saw
 - (a) the work of Standards V., VI., VII., and also the work of boys in the organized Science School, who have passed through the Standards; (b) a Class in Cookery in premises specially fitted as a centre to serve a number of day schools, and also for the use of evening classes; (c) the Laboratories, &c., for instruction in Practical Physics and Chemistry.

In the evening, the Commissioners held a meeting at the Furness Abbey Hotel, to arrange as to further meetings.

BELMONT,

9th April, 1897.

THIRTIETH MEETING.

Thursday, April 8, 1897.

The Commission met at 9 a.m. at the Furness Abbey Hotel.

Present.—The Right Hon. the Earl of BELMONT, G.C.M.G.; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; The Right Rev. Monsignor Molloy, D.D., D.M.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.S.; Captain T. B. Shaw; and Mr. J. Strathern, M.A.;

with Mr. J. D. Daly, Secretary.

The Commissioners proceeded to Roscoe Mixed School, a semi-rural school attended by children of the parish workhouse, children of residents of a mining village, and children of farmers and farm labourers. They saw exercises in advanced Kindergarten, viz., paper folding, cutting and mounting, drawing and colouring, modelling in paper, in cardboard, and in clay.

From Roscoe, the Commissioners drove to Ros Island School, a small school attended by children of residents on Ful and Ros Islands, and the village of Rangsda. The school is a small one, taught by a mistress. Classes of advanced Kindergarten were inspected, and boys in the higher standards were seen at basket work, which, in this school, takes the place of woodwork.

In the afternoon, the Commissioners visited Walney Island, and inspected the small rural school there. It is attended by children of a rural class, who have considerable distances to travel. Advanced Kindergarten is taught in this school.

BELMONT,

9th April, 1897.

THIRTY FIRST MEETING.
(TWENTY-FIRST PUBLIC SITTING.)

Friday, April 9, 1897.

The Commission met at 10 a.m. at the School Board Office, Town Hall, Barrow-in-Furness.

Present.—The Right Hon. the Earl of BELMONT, G.C.M.G., in the chair; The Right Hon. C. T. Redington, M.A.; the Right Rev. Monsignor Molloy, D.D., D.M.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.S.; Captain T. B. Shaw; and Mr. J. Strathern, M.A.;

with Mr. J. D. Daly, Secretary.

The following witnesses, who are connected with the Barrow-in-Furness School Board, were examined:—

1. Arthur Hawridge, the Board's Superintendent of Schools.
2. Miss A. Andrews, Laundry Instructor.
3. Edmund Morris, Instructor in Woodwork.
4. W. Marsh, Head Master of the Holker-street Junior Mixed School.

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APPENDIX F. At the conclusion of the evidence, the following resolution was proposed by Professor G. F. Fitzgerald, seconded by the Right Hon. C. T. Redington, and passed unanimously:—

"That the thanks of this Commission be given to the Barrow-in-Furness School Board and to their officers, for the facilities they have provided for the inspection of schools and for the obtaining of evidence; and for the very interesting and instructive exhibition of manual work, illustrating the methods and productions of different countries, which has been brought together for the information of the Commission."

The Commission adjourned at 1 o'clock.

BELMORE.

29th April, 1897.

THIRTY-SECOND MEETING.

(TWENTY-SECOND PUBLIC SITTING.)

Thursday, April 29, 1897.

The Commission met at 11 o'clock, at the Ancient Concert Rooms, Dublin.

Present.—The Right Hon. the Earl of BELMONT, *o.c.m.g.*, in the chair; His Grace the Most Rev. William J. Walsh, *d.d.*; the Right Hon. C. T. Redington, *m.a.*; Rev. Henry Evans, *d.d.*; Rev. Hamilton Wilson, *d.d.*; Professor G. F. Fitzgerald, *f.r.s.e.*; Mr. Stanley Harrington, *b.a.*; and Mr. W. R. J. Molloy;

with Mr. J. D. Daly, *Secretary*.

The doors having been opened and the public admitted, the following witnesses were examined:—

1. Arthur Allsobrook, *b.sc.*, Assistant to the Professor of Agriculture, and Acting Manager of the Demonstration Flots at the Yorkshire College, Leeds.
2. Arnold F. Graves, *Hon. Secretary* to the Technical Education Association for Ireland.
3. Major T. B. Meredith, *Inspector of Schools* under the Science and Art Department.

The Commission adjourned at 4.30 o'clock.

BELMORE,

30th April, 1897.

THIRTY-THIRD MEETING.

(TWENTY-THIRD PUBLIC SITTING.)

Friday, April 30, 1897.

The Commission met at 3 p.m., at the Ancient Concert Rooms, Dublin.

Present.—The Right Hon. the Earl of BELMONT, *o.c.m.g.*, in the chair; His Grace the Most Rev. William J. Walsh, *d.d.*; the Right Hon. C. T. Redington, *m.a.*; Rev. Hamilton Wilson, *d.d.*; Professor G. F. Fitzgerald, *f.r.s.e.*; Mr. Stanley Harrington, *b.a.*; and Mr. W. R. J. Molloy;

with Mr. J. D. Daly, *Secretary*.

The following witness was examined:—

Mrs Power Lalor.

At the conclusion of the examination of the witness, the Commissioners proceeded to discuss certain matters of procedure.

With reference to the Memorandum put in by Mr. M. E. Sadler, *Director of Special Inquiries and Reports* to the Committee of Council of Education, the following resolution was proposed by the Right Hon. C. T. Redington, seconded by Professor G. F. Fitzgerald, and passed unanimously:—

"That the thanks of this Commission be given to Mr. M. E. Sadler, *Director of Special Inquiries and Reports* to the Committee of Council of Education, for the trouble that he has taken in preparing for the use of the Commission, the very interesting and valuable "Memorandum on Manual Training for boys in the Primary Schools of Europe."

The Commission adjourned at 5.30 o'clock.

BELMORE,

1st May, 1897.

THIRTY-FOURTH MEETING.
(TWENTY-FOURTH PUBLIC SITTING.)

Saturday, May 1, 1897.

The Commission met at 11 a.m. at the Ancient Concert Rooms, Dublin.

Present:—The Right Hon. the Earl of BELMORE, O.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D.; The Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.S.E.; Mr. Stanley Harrington, F.R.S.; and Mr. W. R. J. Molloy;

with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. Principal Reicheal, M.A., of University College, Bangor, North Wales.
2. James Brennan, M.A., M.B.L.A., Head Master, Dublin Metropolitan School of Art.

The Commission adjourned at 1.30 o'clock.

✠ WILLIAM J. WALSH,
— Archbishop of Dublin.
7th May, 1897.

THIRTY-FIFTH MEETING.

Thursday, May 6, 1897.

The Commission met at 11 a.m. at the Convent of the Sisters of Charity, Upper Gardiner-street, Dublin.

Present:—The Right Hon. the Earl of BELMORE, O.C.M.G.; the Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; and Mr. W. R. J. Molloy;

with Mr. J. D. Daly, Secretary.

The Commissioners inspected the schools in Upper Gardiner-street, which are under the care of the Sisters of Charity.

They first visited the Infant Department and saw instruction being given in the different exercises of the Kindergarten. The Senior Department was then inspected, and classes were seen receiving instruction in Needlework, Type-writing, Drawing, Singing, and Cookery.

Subsequently the Commissioners proceeded to the Central Model Schools, Marlborough-street, and saw classes receiving instruction in the following:—

- Girls' School*.—Cookery, Needlework, Drawing, and Singing.
Boys' School.—Handicraft, Drawing.
Infants' School.—Kindergarten Exercises, Object Lessons, Drill and Singing.

The Commission adjourned at 3 o'clock.

✠ WILLIAM J. WALSH,
Archbishop of Dublin.
7th May, 1897.

THIRTY-SIXTH MEETING.

(TWENTY-FIFTH PUBLIC SITTING.)

Friday, May 7, 1897.

The Commission met at 11 a.m. at the Kildare-place National Schools, Dublin.

Present:—The Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; and Mr. W. R. J. Molloy;

with Mr. J. D. Daly, Secretary.

The Commissioners, under the guidance of Mr. W. G. Brooks, M.A., Manager of the Kildare-place National Schools, and the Rev. H. Kingsmill Moore, M.A., Principal of the Church of Ireland Training College, inspected the Schools and the Training College, and saw classes receiving instruction in the following subjects:—Kindergarten Exercises, Drawing, Handicraft, Cookery.

At 5 o'clock the Commission met at the Ancient Concert Rooms, Dublin.

Present:—His Grace the Most Rev. WILLIAM J. WALSH, D.D., in the chair; the Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.S.E.; and Mr. W. R. J. Molloy;

with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. James S. Gordon, Principal of the Chelsea Agricultural and Horticultural School.
2. Anthony Trill, M.A., F.R.S.

The Commission adjourned at 5.15 o'clock.

✠ WILLIAM J. WALSH,
Archbishop of Dublin.
22nd May, 1897.
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THIRTY-SEVENTH MEETING.

(TWENTY-SEVEN PUBLIC SITTING.)

Saturday, May 8, 1897.

The Commission met at 12 noon, at the Antient Concert Rooms, Dublin.

Present.—His Grace the Most Rev. WILLIAM J. WALSH, D.D., in the chair, the Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Professor G. F. Fitzgerald, F.R.C.D.; and Mr. W. R. J. Malloy;

with Mr. J. D. Daly, Secretary.

The following witnesses were examined—

1. Thomas Preston, M.A., Inspector of Schools under the Science and Art Department.
2. Jeremiah Golden, Principal Teacher of the Kimmiskerry National School.

The Commission adjourned at 2 o'clock.

✠ WILLIAM J. WALSH,
Archbishop of Dublin
22nd May, 1897

THIRTY-EIGHTH MEETING.

Tuesday, May 20, 1897.

The Commission met at 10.30 a.m., at the Convent of the Sisters of Mercy, Carysfort Park, Blackrock, County Dublin.

Present.—The Right Hon. C. Pallen, LL.D., Lord Chief Baron of the Exchequer; the Right Hon. C. T. Redington, M.A.; Rev. Hamilton Wilson, D.D.; and Mr. W. R. J. Malloy;

with Mr. J. D. Daly, Secretary.

The Commissioners were received by the Rev. Mother Superior and by the Very Rev. Monsignor Plunkett, F.R., and were permitted to inspect the Convent Buildings and the Industrial School. They then proceeded to the Convent National Schools, where classes were seen receiving instruction in the following subjects—

Kindergarten exercises, Musical Drill, Singing, Dressmaking and Needlework, and Cookery.

Subsequently the Commissioners proceeded to the Convent of the Sisters of Mercy, Bagginistown, and inspected the Training College and the practising schools attached.

Classes were seen receiving instruction in Domestic Economy, Typewriting, Shorthand, Cookery, Musical Drill, Kindergarten exercises, Object Lessons, Conversation Lessons, Drawing, Singing, Needlework including Scientific Dressmaking and Embroidery.

The Commissioners finished their inspection at 3.30 o'clock.

✠ WILLIAM J. WALSH,
Archbishop of Dublin.
22nd May, 1897.

THIRTY-NINTH MEETING.

Friday, May 21, 1897.

The Commission met at 10.30 a.m., at St. Paul's National Schools, Blackhall-parade, Dublin.

Present.—The Right Hon. C. Pallen, LL.D., Lord Chief Baron of the Exchequer; the Right Hon. C. T. Redington, M.A.; and Rev. Hamilton Wilson, D.D.;

with Mr. J. D. Daly, Secretary.

The Rev. W. M. Gibson, M.A., the Manager of the Schools, was present. The Commissioners inspected the schools, and saw classes receiving instruction in Needlework and Drawing.

The Commissioners then proceeded to the Victoria Kindergarten Schools, Arbour Hill, where they saw the children at Musical Drill and at Kindergarten exercises.

The Commissioners next visited St. Peter's National Schools, New Bride-street, where Rev. Dr. Evans and Mr. W. R. J. Malloy were also present.

Rev. Gilbert Mahaffy, M.A., the Manager of the Schools, received the Commissioners and accompanied them through the three departments.

In the Infants' School, the children were seen at Kindergarten exercises, in the Girls' School, classes were seen at Drawing and Needlework, and in the Boys' School, at Drawing, and Singing by the Tonic Sol-fa method.

At 5 o'clock the Commissioners met at the Albert Model Farm, Glasnevin.

Present.—The Right Hon. C. Pallen, LL.D., Lord Chief Baron of the Exchequer; the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., LL.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald; and Mr. W. R. J. Malloy;

with Mr. J. D. Daly, Secretary.

Under the guidance of Professor Carroll and of the Professors of the Institution, the Commissioners inspected the Institution buildings, and subsequently the Farm buildings including the Dairy, and the Farm including the Gardens, Botanical Grounds, Experimental Plots, &c.

✠ WILLIAM J. WALSH,
Archbishop of Dublin.
22nd May, 1897.

FORTIETH MEETING.

(TWENTY-SEVENTH PUBLIC SITTING.)

Saturday, May 22, 1897.

The Commission met at 11 a.m., at the Ancient Concert Rooms, Dublin.

Present:—His Grace the Most Rev. WILLIAM J. WALSH, D.D., in the chair; the Right Hon. C. Ffrench, M.P., Lord Chief Baron of the Exchequer; the Right Hon. C. T. Bodington, M.A.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald; and Mr. W. B. J. Mulloy; with Mr. J. D. Daly, Secretary.

The following witness was examined:—

D. Holland, Principal Teacher, Borough School, Swania.

The Commission adjourned at 1.45 o'clock.

† WILLIAM J. WALSH,
Archbishop of Dublin.
22nd June, 1897.

FORTY-FIRST MEETING.

(SWEDEN).

Saturday, June 5, 1897.

[*Note by Secretary*—This and the following meetings, up to and including the Forty-eighth Meeting, were held in Sweden. The Forty-ninth and Fiftieth Meetings were held in Denmark. The Commissioners present at each were:—

The Right Hon. the Earl of BELMORE, G.C.B., Chairman; Rev. Henry Evans, D.D., and Mr. J. Struthers, M.A.

Full details of the Commissioners' visits to schools, &c., in Sweden and Denmark, will be found in Appendix A, LVII, p. 148.]

The Commissioners arrived at Gothenburg from England. In the afternoon, accompanied by H. B. M.'s Consul (Mr. Consul Duff), the Commissioners visited the office of the Minister of Education, and received explanations from Herr Hallén, Stöjd Superintendent, as to the provision for Stöjd instruction in the public schools of Gothenburg; and made arrangements for visiting the Sandals School on Tuesday, June 8th. They also inspected the collection of models in the office.

FORTY-SECOND MEETING.

(SWEDEN).

Monday, June 7, 1897.

The Commissioners proceeded by rail to Floda Station, to visit the Stöjd Seminarium at Nasa, and to confer with Herr Selosén as to how best to accomplish the objects of their visit to Sweden. They subsequently returned to Gothenburg, and, in the evening, proceeded by rail to Trollhättan.

FORTY-THIRD MEETING.

(SWEDEN).

Tuesday, June 8, 1897.

In the morning the Commissioners visited the Folks School at Trollhättan, which, however, was not in operation. They returned to Gothenburg, and, in the afternoon, visited the Sandals Schools, and inspected classes at Woodwork and Metal work.

FORTY-FOURTH MEETING.

(SWEDEN).

Wednesday, June 9, 1897.

In the morning the Commissioners returned to Nasa, saw classes at Manual work, &c., &c., at the Nasa Seminarium, and took the evidence of Herr Selosén, the Director. They visited the Folk School at Nasa, and saw a class at Woodwork. At night they went by rail to Stockholm.

FORTY-FIFTH MEETING.

(SWEDEN).

Thursday, June 10, 1897.

In the morning the Commissioners visited the Stöjd section of the Arts and Industries Exhibition at Stockholm. In the afternoon they visited the Kungsholmen School in Stockholm, and saw the Wood and Metal Manual classes at work.

FORTY-SIXTH MEETING.

(SWEDEN).

Friday, June 11, 1897.

The Commissioners proceeded by rail to Upsala, and drove to Gamla Upsala. They saw a (Wood) Manual class at work, and received explanations from the teacher. On their return to Upsala, they visited one of the Folk Schools, which was not in operation at the time, but which appeared to be very completely equipped. Afterwards they returned to Stockholm.

FORTY-SEVENTH MEETING.

(SWEDEN).

Saturday, June 12, 1897.

In the morning the Commissioners visited the Maria Magdalena School in Stockholm, under the guidance of Miss Lundin, Directors of Needlework. Later, that day, who was a member of the Managing Committee of the Exhibition, accompanied the Commissioners there, and gave explanations.

FORTY-EIGHTH MEETING.

(SWEDEN).

Monday, June 14, 1897.

In the morning the Commissioners went by rail to Norrköping, and drove to the rural schools at Enköp and Mariöberg, and, returning to Norrköping, visited the Södra Sköln, a large town school there. In each of these schools they saw (Wood) Manual work in progress. At night they proceeded by train and steamer to Copenhagen.

FORTY-NINTH MEETING.

(DENMARK).

Tuesday, June 15, 1897.

In the afternoon the Commissioners visited Herr Mikkelsen's Manual Training class-rooms at Copenhagen, and made arrangements to return next morning. They then visited one of the three Communal schools, and saw a Manual class at work.

FIFTIETH MEETING.

(DENMARK).

Wednesday, June 16, 1897.

The Commissioners again visited Herr Mikkelsen's Training classes, and saw a mixed class of male and female teachers at Woodwork. A country school, which they had arranged to visit, they found would not be in operation owing to a local holiday. They subsequently called at the Ministry of Worship and Education, and were received by the Minister (the Bishop-Bihyr), who courteously promised every assistance in obtaining reports bearing on the object of the inquiry.

FIFTY-FIRST MEETING.

Wednesday, May 26, 1897.

The Commission met at 11 a.m., at St. Patrick's Training College, Drumcondra.

Present:—The Right Hon. C. Pallen, M.P., Lord Chief Baron of the Exchequer; The Right Hon. G. T. Rodington, M.A., The Right Rev. Monsignor Malloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; and Mr. W. R. J. McElroy;

with Mr. J. D. Daly, Secretary.

The Commissioners were received by Very Rev. P. Byrne, Principal of the Training College, and Professors Bacon, McWeeney, and Foy, and were afforded an opportunity of inspecting the Training College and the Practising Schools.

Subsequently, the Commissioners visited the Schools of the Sisters of Charity, King's Inns-street, Dublin, and inspected the different departments. Classes were seen receiving instruction in Drawing, Shorthand, Typewriting, Singing, Cookery, Needlework, including Scientific Dress-making and Embroidery. In the Infant School, the children were seen at Manual Drill, and at the various Kindergarten occupations.

The Commissioners finished the inspection at 3 o'clock.

† WILLIAM J. WALSH,

Archbishop of Dublin.

26th June, 1897.

FIFTY-SECOND MEETING.

Thursday, June 24, 1897.

The Commission met at 11 a.m., at the Leetie Convent, Bray, County Wicklow.

Present:—Rev. Hamilton Wilson, D.D.; Mr. Stanley Harrington, B.A.; and Mr. W. R. J. Molloy;
with Mr. J. D. Daly, *Secretary*.

The Commissioners inspected the Convent Buildings, and subsequently the Cottage, where instruction in Housewifery is given to the children of the National Schools attached to the Convent.

Afterwards the National Schools were visited, and classes were seen receiving instruction in Cookery, Sewing (including Cutting out, and Dressmaking), Drawing, Singing, Kindergarten exercises, and Musical Drill.

The Commissioners then drove to Ramskerry, and visited the National School there. Rev. Charles Cuddihy, P.P., the Manager of the School, received the Commissioners, and Mr. Golden, the Teacher, explained the method of instructing the children in the school garden attached to the school.

The Commissioners returned to Bray at 4.30 o'clock.

✠ WILLIAM J. WALSH,
Archbishop of Dublin.
24th June, 1897.

FIFTY-THIRD MEETING.

Friday, June 25, 1897.

The Commission met at 10.30 a.m., at St. Mary's National Schools, Rathmines.

Present:—The Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Hamilton Wilson, D.D.; Mr. Stanley Harrington, B.A.; and Mr. W. R. J. Molloy;
with Mr. J. D. Daly, *Secretary*.

The Commissioners were received by the Manager of the Schools, Very Rev. Canon Fricker, P.P., and were kindly afforded an opportunity of inspecting the Schools, and of seeing classes receiving instruction in the following subjects:—Drawing, Typewriting, Singing, Kindergarten exercises, Needlework, and Cookery.

At a quarter-past twelve, the Commissioners visited the Rathgar Avenue National Schools, and, at two o'clock, Denise National School, South Circular-road, where the Manager, Rev. J. M. Hamilton, M.A., received the Commissioners and accompanied them through the various classes.

The Commissioners finished their inspection at 3 o'clock.

✠ WILLIAM J. WALSH,
Archbishop of Dublin.
25th June, 1897.

FIFTY-FOURTH MEETING.

(TWENTY-EIGHTH PUBLIC SITTING.)

Saturday, June 26, 1897.

The Commission met at 11 a.m., at the Ancient Concert Rooms, Dublin.

Present:—His Grace the Most Rev. WILLIAM J. WALSH, D.D., in the chair; The Right Rev. Monsignor Molloy, Rev. Henry Evans, D.D., Rev. Hamilton Wilson, D.D.; Mr. Stanley Harrington, B.A.; and Mr. W. R. J. Molloy;
with Mr. J. D. Daly, *Secretary*.

The following witnesses were examined:—

1. THOMAS CURRILL, M.B.E., Agricultural Superintendent, Albert Farm, Glasnevin (further examined).
2. George Perry, J.P.

The Secretary was directed to prepare the Second Report of the Commissioners, in order that the Evidence taken in England, might be presented to Parliament before the close of the session.

The Commission adjourned at 2 o'clock.

REZONS,
26th July, 1897.

FIFTY-FIFTH MEETING.

(TWENTY-SIXTH PUBLIC SITTING.)

Thursday, July 29, 1897.

The Commission met at 11 o'clock at the Antient Concert Rooms, Dublin.

Present.—The Right Hon. the Earl of BELMORE, G.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., LL.D.; Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. Stanley Harrington, B.A.; Mr. W. R. J. Molloy; and Mr. J. Struthers, D.A.; with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. Terence Clarke, B.A., LL.B., Principal Teacher of Bray National School and President, Teachers' Organisation.
2. John Coffey, Principal Teacher, Ringsend National School, and Central Secretary, Teachers' Organisation.
3. John Nelson, National Teacher, Portree, Neagh, and Ex-President, Teachers' Organisation.

The Commission adjourned at 2.40 o'clock.

BELMORE,
30th July, 1897.

FIFTY-SIXTH MEETING.

(THIRTIETH PUBLIC SITTING.)

Friday, July 30, 1897.

The Commission met at 2.30 p.m., at the Antient Concert Rooms, Dublin.

Present.—The Right Hon. the Earl of BELMORE, G.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., LL.D.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. Stanley Harrington, B.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, B.A.; with Mr. J. D. Daly, Secretary.

The Commission took up the question of the appointment of Assistants to visit the Continent, for the purpose of obtaining information. Messrs. Furner and T. W. Ballston were appointed to visit Germany. The appointment of two Assistants to visit France was postponed until the following day.

The Secretary submitted Draft Third Report of the Commission. The Report, being unamended, was adopted, and it was decided that the Memorandum on the visit to Sweden should appear as an Appendix to the Third Volume of Evidence.

The Commission dealt with the correspondence.

The following witnesses were examined:—

1. W. F. Headen, B.A., District Inspector of National Schools.
2. W. A. Brown, B.A., District Inspector of National Schools.
3. J. J. Hyatt, B.A., District Inspector of National Schools.

The Commission adjourned at 5.30 o'clock.

BELMORE,
31st July, 1897.

FIFTY-SEVENTH MEETING.

(THIRTY-FIRST PUBLIC SITTING.)

Saturday, July 31, 1897.

The Commission met at 11 a.m., at the Antient Concert Rooms, Dublin.

Present.—The Right Hon. the Earl of BELMORE, G.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., LL.D.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, B.A.; with Mr. J. D. Daly, Secretary.

The Commission resumed the consideration of the appointment of Assistants to visit the Continent. Messrs. A. N. Bonaparte Wyse and E. J. Hughes-Dowling were appointed to collect information in France.

The dates for the provincial tour were finally agreed upon. It was decided to begin in Kilkenny on September 28.

The following witnesses were examined:—

1. J. Steele, LL.D., District Inspector of National Schools.
2. W. T. Clements, Inspectors' Assistant.
3. Miss M. McCarthy, Instructor in Cookery, Baggot-street Training College, Dublin.
4. P. Bertram Fay, Professor of Drawing, St. Patrick's Training College, Drumcondra (further examined).

The Commission adjourned at 1.30 o'clock.

BELMORE,
29th September, 1897.

FIFTY-EIGHTH MEETING.

APPENDIX F

Tuesday, September 28, 1897.

The Commission met at 10.30 a.m., at the Presentation Convent, Kilkenny.

Present—The Right Hon. the Earl of Beaumont, O.M.G.; the Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson; Mr. W. R. J. Molloy; and Captain T. B. Shaw;

with Mr. J. D. Daly, Secretary.

The Most Rev. Dr. Browne, Lord Bishop of Ossory, was present, and accompanied the Commission through the Schools. Classes were seen receiving instruction in Drawing, Kindergarten exercises, Singing, Manual Drill, Typewriting, Stenorthand, Lacemaking, Needlework, Knitting, Weaving, and Cookery.

At 1.30 o'clock, the Commission visited the Schools attached to the Convent of St. Camillus, and inspected classes in Drawing, Needlework, Singing, Manual Drill, Kindergarten exercises, and Weaving.

Subsequently the Commission visited the Model School, and inspected the Boys' and Girls' Departments.

BELMONT,

29th September, 1897.

FIFTY-NINTH MEETING.

(THIRTY-SECOND PUBLIC SITTING.)

Wednesday, September 29, 1897.

The Commission met at 10.30 a.m., at the De La Salle Training College, Waterford.

Present—The Right Hon. the Earl of Beaumont, O.M.G.; the Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. W. R. J. Molloy; and Captain T. B. Shaw;

with Mr. J. D. Daly, Secretary.

The Commissioners were received by the Most Rev. Dr. Sheehan, Lord Bishop of Waterford, and by Rev. Brother Thomas, Principal of the College.

The Commission inspected the College buildings, and the Freeling Schools attached to the College.

Subsequently the Commission visited the Model Schools.

At 2 o'clock the Commission met at the Imperial Hotel, Waterford, for the purpose of taking evidence.

The following witnesses were examined:—

1. Rev. Brother Thomas, M.A., Principal, De La Salle Training College, Waterford.
2. J. B. Shillingford, M.A., M.P., District Inspector of National Schools.
3. G. R. Eanik, M.A., Head Master, Diocesan School, Waterford.
4. E. Landers, National Teacher, Coolmanmore National School, Dungarvan.

The Commission adjourned at 5 o'clock.

BELMONT,

3rd October, 1897.

SIXTIETH MEETING.

(THIRTY-THIRD PUBLIC SITTING.)

Thursday, September 30, 1897.

The Commission met at 12 o'clock, at the Christian Brothers' School, Lismore.

Present—The Right Hon. the Earl of Beaumont, O.M.G.; the Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. Stanley Harrington, M.A.; Mr. W. R. J. Molloy; and Captain T. B. Shaw;

with Mr. J. D. Daly, Secretary.

The Commission inspected the School buildings and subsequently the Manual Instruction Class, where boys were being taught Woodwork.

Subsequently the Commission held a sitting in the Manual Instruction Room, and the following witness was examined:—

Rev. Brother Gogarty, the Instructor in Woodwork.

At 2.30 the Commission visited Gleggsy School Farm, about three miles from Lismore. The Manager, Mr. Pearse, and the Inspector of Schools, Mr. Craig, were present.

BELMONT,

3rd October, 1897.

3 M

SIXTY-FIRST MEETING.

(THIRTY-FOURTH PUBLIC SITTING.)

Friday, October 1, 1897.

The Commission met at 10.30 a.m., at the Christian Brothers' Schools, North Monastery, Cork.

Present:—The Right Hon. the Earl of BELMONT, O.C.M.G.; the Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. Stanley Harrington, M.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, M.A.,

with Mr. J. D. Daly, Secretary.

The Commissioners were received by the Most Rev. Dr. O'Callaghan, Lord Bishop of Cork, by Rev. Brother Burke, Superior of the Monastery, and by the Members of the Community.

The School Buildings were inspected and each class visited. Classes were seen receiving instruction in Drawing, Shorthand, Typewriting, &c. A visit was also paid to the Physical Science Laboratory, and to the various School Museums.

At 12 o'clock a visit was paid to the St. Vincent's Convent National Schools, under the care of the Sisters of Charity. Classes were seen receiving instruction in Kindergarten exercises, Scientific Dressmaking, Drawing, Shorthand, and Cookery.

At 2 o'clock the Commission visited the Model School, and were received by Dr. Alexander, Head Inspector of National Schools, and Mr. Murray, the Head Master.

At 3 o'clock the Commission visited the Munster Dairy School and Agricultural Institute, and were received by the Governors of the School.

The Commission then held a sitting.

The following witnesses were examined:—

1. Mr. George Colclough, Bart., Chairman of the Governors of the Munster Dairy Schools.
2. Richard Barker, A.R., Vice Chairman.
3. Ludlow A. Beamish, Hon. Secretary.
4. R. H. Beamish, one of the Governors.
5. James Byrne, one of the Governors.

The Commission subsequently visited the Farm.

The Commission adjourned at 5.30 o'clock.

BELMONT,
2nd October, 1897.

SIXTY-SECOND MEETING.

(THIRTY-FIFTH PUBLIC SITTING.)

Saturday, October 2, 1897.

The Commission met at 10 a.m., at the Imperial Hotel, Cork.

Present:—The Right Hon. the Earl of BELMONT, O.C.M.G., in the chair; the Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. Stanley Harrington, M.A.; Mr. W. R. J. Molloy; and Mr. J. Struthers, M.A.;

with Mr. J. D. Daly, Secretary.

The arrangements made for the visit to Scotland were submitted and approved.

The public having been admitted, the following witnesses were examined:—

1. Rev. Brother Burke, Superior, Christian Brothers' Schools, North Monastery, Cork.
2. Rev. Canon Powell, D.D., Hon. Secretary, City of Cork Church School Board.
3. T. J. Alexander, D.D., Head Inspector of National Schools.
4. C. Smith, District Inspector of National Schools.
5. E. J. Murray, Head Master, Model School, Cork.

At the conclusion of Mr. Murray's evidence the Commission adjourned for luncheon.

On resuming, Mr. W. R. J. Molloy in the chair, the following witnesses were examined:—

6. J. D. Dennehy, National Teacher, Ballinlough National School, Cork.
7. P. Gashie, National Teacher, Trimetts-lane National School, Cork, Hon. Secretary, Cork National Teachers' Association.

The Commission adjourned at 4.30 o'clock.

BELMONT,
4th October, 1897.

SIXTY-THIRD MEETING.

APPENDIX F.

(THIRTY-SIXTH PUBLIC SITTING.)

Monday, October 4, 1897.

The Commission met at 2 p.m., at Cruise's Hotel, Limerick.

Present:—The Right Hon. the Earl of BELMORE, O.C.M.G., in the chair; the Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.S.D.; Mr. Stanley Harrington, B.A.; Mr. W. H. J. Molloy; and Mr. J. Struthers, M.A.;
with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. Hon. Miss Spring Rice.
2. G. Bateman, M.D., District Inspector of National Schools.
3. W. B. Joyce, B.A., Head Master, Leamy's School, Limerick.
4. William Burdett, M.A., Agricultural Instructor to the Trustees of the Limerick Endowment for Technical Education.
5. J. B. Bradshaw, National Teacher, Cappamore National School, Limerick.

The Commission adjourned at 4.15 o'clock.

BELMORE,
5th October, 1897.

SIXTY-FOURTH MEETING.

(THIRTY-SEVENTH PUBLIC SITTING.)

Tuesday, October 5, 1897.

The Commission met at 2 p.m., at Cruise's Hotel, Limerick.

Present:—The Right Hon. the Earl of BELMORE, O.C.M.G., in the chair; the Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.S.D.; Mr. Stanley Harrington, B.A.; Mr. W. B. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, M.A.;
with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. The Most Rev. Dr. O'Dwyer, Lord Bishop of Limerick.
2. The Right Hon. Lord Montagu.
3. Ven. Archdeacon Hamilton.
4. Wm. Deane, Teacher, Shansgolden National School.

In the morning the Commission visited the Model School, and Leamy's School, Limerick.

The Commission adjourned at 5 o'clock.

BELMORE,
6th October, 1897.

SIXTY-FIFTH MEETING.

(THIRTY-EIGHTH PUBLIC SITTING.)

Wednesday, October 6, 1897.

The Commission met at 3.30 o'clock at the Railway Hotel, Galway.

Present:—The Right Hon. the Earl of BELMORE, O.C.M.G., in the chair; the Right Hon. C. T. Redington, M.A.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.S.D.; Mr. Stanley Harrington, B.A.; Mr. W. B. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, M.A.;
with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. Rev. P. F. Lally, M.A., St. Joseph's, Galway, Hon. Secretary, Galway Technical School.
2. Very Rev. Canon Lynskey, F.R., F.A., Clifton.
3. James Perry, C.E., County Surveyor, Galway.

The Commission adjourned at 6 o'clock.

BELMORE,
7th October, 1897.
3 M 2

SIXTY-SIXTH MEETING.

(THIRTY-SEVEN PUBLIC SITTINGS.)

Thursday, October 7, 1897.

The Commission met at 3 o'clock at the Railway Hotel, Galway.

Present.—The Right Hon. the Earl of BELMONT, G.C.B., in the chair; the Right Hon. C. T. Redington, M.A.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.D.; Mr. Stanley Harrington, B.A.; Mr. W. R. J. Molloy, Captain T. B. Shaw, and Mr. J. Struthers, B.A., with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. Rev. J. Constaney Clarke, B.A., Presbyterian Minister, Galway.
2. W. H. Wajör, B.A., District Inspector of National Schools.
3. Joseph D. Kelly, Teacher, Coshel National School, Co. Galway.
4. P. J. Hannou, Longhrea, Organizer to the Irish Agricultural Organisation Society.

In the morning the Commission visited the City of Galway Technical Institute, and were received by the Most Rev. Dr. MacCormack, Lord Bishop of Galway, and Rev. P. F. Lally, F.R., Hon. Secretary to the Institute.

Subsequently the Commission visited the Model School, the Rahoon National Schools attached to the Presentation Convent, and the Newtownsmifh National Schools under the care of the Sisters of Mercy.

The Commission adjourned at 5 o'clock.

BELMONT,

8th October, 1897.

SIXTY-SEVENTH MEETING.

(FORTY-EIGHT PUBLIC SITTINGS.)

Friday, October 8, 1897.

The Commission met at 5.30 p.m., at the Imperial Hotel, Sligo.

Present.—The Right Hon. the Earl of BELMONT, G.C.B., in the chair; the Right Hon. C. T. Redington, M.A.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.D.; Mr. Stanley Harrington, B.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw, and Mr. J. Struthers, B.A., with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. T. Cryan, Principal Teacher, Tournabrack National School, Ballyghaderstin.
2. James Feehan, Head Master, Model School, Sligo.

The Commission adjourned at 7.10 o'clock.

BELMONT,

9th October, 1897.

SIXTY-EIGHTH MEETING.

(FIFTY-NINE PUBLIC SITTINGS.)

Saturday, October 9, 1897.

The Commission met at 12 o'clock, at the Imperial Hotel, Sligo.

Present:—The Right Hon. the Earl of BELMONT, G.C.B., in the chair; the Right Hon. C. T. Redington, M.A.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.D.; Mr. Stanley Harrington, B.A.; Mr. W. R. J. Molloy, Captain T. B. Shaw, and Mr. J. Struthers, B.A., with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. M. Doyle, Principal Teacher, Ballymote National School, Co. Sligo.
2. Thomas MacLaghlin, Principal Teacher, Laphul National School, Boyle.
3. Hubert J. Sweeney, Principal Teacher, Quay-street (Junior) National School, Sligo.

In the morning the Commissioners visited:—

1. The Model School, Sligo.
2. The Ursuline Convent.
3. The Schools attached to the Convent of the Sisters of Mercy.

The Commission adjourned at 3 o'clock.

H. B. WILSON,

12th October, 1897.

SIXTY-NINTH MEETING.

APPENDIX F.

(FORTY-SECOND PUBLIC SITTING.)

Tuesday, October 12, 1897.

The Commission met at 2 p.m., at the Grand Central Hotel, Belfast.

Present.—Rev. HAMILTON WILSON, D.D., in the chair; Mr. Stanley Harrington, B.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Stuthers, B.A.,
with Mr. J. D. Daly, Secretary.

The following witnesses were examined.—

1. J. Moran, LL.D., Head Inspector of National Schools.
2. Robert Brown, Principal Teacher, Comber street National School, Belfast.
3. Philip Ward, Principal Teacher, St. Paul's National School, Belfast.

The Commission adjourned at 4.45 o'clock.

BELMONT,

12th October, 1897.

SEVENTIETH MEETING.

(FORTY-THIRD PUBLIC SITTING.)

Wednesday, October 13, 1897.

The Commission met at 10 a.m., at the Grand Central Hotel, Belfast.

Present.—The Right Hon. the Earl of BELMONT, G.C.M.G., in the chair; the Hon. G. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. W. R. J. Molloy; Captain T. B. Shaw, and Mr. J. Stuthers, B.A.;
with Mr. J. D. Daly, Secretary.

The following witnesses were examined.—

1. Rev. T. Ques, F.R., Rathfriland.
2. Right Rev. Monsignor Byrne, F.R., F.C., Dungannon.
3. Wesley Forten, National Teacher, Tollymore National School, Belfast.
4. Rev. George Magill, Presbyterian Minister, Belfast.
5. Rev. S. E. Busby, LL.D., Rector of St. Andrew's, Belfast.
6. Colonel Burgess, D.L., Potlusk, Castleknock.
7. E. F. Downe, M.A., District Inspector of National Schools, Lurgan.

The Commission adjourned at 1.20 o'clock.

BELMONT,

13th October, 1897.

SEVENTY-FIRST MEETING.

(FORTY-FOURTH PUBLIC SITTING.)

Thursday, October 14, 1897.

The Commission met at 10.30 a.m., at the Belfast Model School.

Present.—The Right Hon. the Earl of BELMONT, G.C.M.G., the Right Hon. G. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. W. R. J. Molloy; Captain T. B. Shaw, and Mr. J. Stuthers, B.A.;
with Mr. J. D. Daly, Secretary.

The Commission inspected the various departments of the Model School, and saw classes receiving instruction in Kindergarten exercises, Drawing, Musical Drill, Singing, Needlework, Cookery, Handicraft.

Subsequently the Commission visited Charter's Memorial School, and saw classes receiving instruction in Kindergarten exercises, Musical Drill, Singing, Drawing, Needlework, &c.

At 2 o'clock the Commission met at the Grand Central Hotel, Belfast.

The following witnesses were examined.—

1. J. P. Dalton, M.A., District Inspector of National Schools.
2. William Pedlow, B.A., District Inspector of National Schools.
3. H. M. Beatty, LL.D., District Inspector of National Schools.
4. Rev. Dr. Spence, St. Mary's, Chalmers-road, Belfast.
5. Rev. R. J. Clarke, Trinity Church, Belfast.
6. S. Barham, Head Master, Model School, Carrickfergus.

The Commission adjourned at 3.30 o'clock.

BELMONT,

14th October, 1897.

APPENDIX F.

SEVENTY-SECOND MEETING.

Tuesday, October 15, 1897.

The Commission met at 2.15 p.m. at the schools attached to the First Presbyterian Church, Londonderry.

Present:—The Right Hon. the Earl of BELMONT, G.C.M.G., in the chair, the Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. W. R. J. Molloy, Captain T. B. Shaw, and Mr. J. Struthers, B.A.,

with Mr. J. D. Daly, Secretary.

The Commissioners were received by Rev. J. Cargin, Manager of the School, who accompanied them through the various classes.

Subsequently the Commission visited the Model School.

BELMONT,
16th October, 1897.

SEVENTY-THIRD MEETING.

(FORTY-FIFTH PUBLIC SESSION.)

Saturday, October 16, 1897.

The Commission met at 10.30 a.m., at the City Hotel, Londonderry.

Present:—The Right Hon. the Earl of BELMONT, G.C.M.G., in the chair, the Right Hon. C. T. Redington, M.A.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. W. R. J. Molloy, Captain T. B. Shaw, and Mr. J. Struthers, B.A.,

with Mr. J. D. DALY, Secretary.

The following witnesses were examined:—

1. W. J. BROWNE, M.A., District Inspector of National Schools.
2. F. BARDLEY, Head Inspector of National Schools.
3. Rev. James Cargin, Presbyterian Minister, Londonderry.
4. Rev. Hugh McManis, Administrator, St. Columba's Parish, Londonderry.
5. Rev. Edward McKenna, F.R., Claudi, Londonderry.
6. James Egan, National Teacher, Killymullagh National School, Cullin, Londonderry.
7. William Patterson, National Teacher, Cullin road National School, Londonderry.

The Commission adjourned at 3.30 o'clock.

BELMONT,
19th October, 1897.

SEVENTY-FOURTH MEETING.

Monday, October 18, 1897.

The Commission met at 10 a.m., at the City Hotel, Londonderry.

Present:—Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; and Mr. W. R. J. Molloy;

with Mr. J. D. DALY, Secretary.

The following schools were inspected:—

1. Craig Memorial National School.
2. St. Eugene's National Schools.
3. The Cathedral Schools.
4. Long Tower National Schools.
5. Curlew-road National Schools.
6. The Waterside National Schools.

BELMONT,
19th October, 1897.

SEVENTY-FIFTH MEETING.

(FORTY-SIXTH AND FORTY-SEVENTH PUBLIC SESSIONS.)

Tuesday, October 19, 1897.

The Commission met at 10 a.m., at the County Buildings, Dunfermline.

Present:—The Right Hon. the Earl of BELMONT, G.C.M.G., in the chair; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. W. R. J. Molloy, Captain T. B. Shaw, and Mr. J. Struthers, B.A.;

with Mr. J. D. DALY, Secretary.

The following witnesses were examined:—

1. John M. Aitken, M.A., Member of the Education Committee of the Dunfermline County Council.
2. Rev. J. Gillespie, LL.D., Chairman of the Highland and Agricultural Society and Member of the Education Committee of the Dunfermline County Council.
3. John Nicholson, Chairman of the Finance Committee of the Dunfermline County Council.
4. Jerome Wallace, Teacher, Harlaw Public School, Orono, N.B.

At the conclusion of the evidence, the following resolution was proposed by Rev. Dr. Wilson, seconded by Mr. W. R. J. Molloy, and passed unanimously:—

"That the sincere thanks of the Commission on Manual and Practical Instruction in Primary Schools (Ireland) be given to the County Council of Dunfries for the valuable aid they have given in providing facilities for the inspection of schools and for the reception of evidence; and to their various officers for their cordial co-operation."

The Commission adjourned the taking of evidence at 11.50 o'clock, and proceeded to inspect Dunfries Academy.

The Commissioners then proceeded to Lockerbie and inspected Dryfedale Public School, where they saw classes in Manual work and Cookery.

The Commission then held a sitting. The following witness was examined:—

Peter Malcolm, M.A., Head Master of Dryfedale Public School.

The Commission adjourned at 4.30 o'clock.

EDINBURGH,
20th October, 1897.

SEVENTY-SIXTH MEETING.

(FORTY-EIGHTH PUBLIC SITTING.)

Wednesday, October 20, 1897.

The Commission met at 9.45 a.m. at the Royal Hotel, Edinburgh.

Present:—The Right Hon. the Earl of BELMONT, M.C.M.A., His Grace the Most Rev. William J. Walsh, D.D., the Right Rev. Monsignor Molloy, D.D. D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. Stanley Harrington, M.A.; Mr. W. R. J. Molloy, Captain T. B. Shaw; and Mr. J. Struthers, B.A.;

with Mr. J. D. Daly, Secretary.

The Commission proceeded to visit the following schools under the Edinburgh School Board:—

1. London-street School, where the Commissioners saw a class for Manual Instruction in Woodwork for Fifth Standard pupils in their first year's course, in a workshop outside the main school building. A class for Cookery was also visited.
2. Canonville School, where a class for Manual Instruction in Woodwork for Sixth Standard pupils was seen. The workshop is one erected outside the school building, and is fitted for Cookery class purposes as well as for Woodwork.

At 1.30 o'clock, the Commission met at the School Board Office, Edinburgh.

The following witnesses were examined:—

1. Collie G. Macrae, M.A., Chairman of the Edinburgh School Board.
2. Alexander Gray, Member of the Edinburgh School Board.
3. David Graham, Chief Instructor in Woodwork under the Edinburgh School Board.
4. S. McC. Murray, Head Master, Science Public School, Edinburgh.
5. Wm. E. Gibson, Treasurer to the Edinburgh School Board.
6. Miss Margaret Brander, Mistress of the Infant Department, South Bridge School, Edinburgh.
7. Robert Wallace, Professor of Agriculture and Rural Economy in the University of Edinburgh.

The Commission adjourned at 5.50 o'clock.

EDINBURGH,
21st October, 1897.

SEVENTY-SEVENTH MEETING.

(FORTY-NINTH PUBLIC SITTING.)

Thursday, October 21, 1897.

The Commission met at 9.45 a.m. at the Royal Hotel, Edinburgh.

Present:—The Right Hon. the Earl of BELMONT, M.C.M.A., His Grace the Most Rev. William J. Walsh, D.D., the Right Rev. Monsignor Molloy, D.D. D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. Stanley Harrington, M.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, B.A.;

with Mr. J. D. Daly, Secretary.

The Commission proceeded to visit the following Schools:—

1. Science Public School.
2. Brantfield Public School.
3. Heron's Hospital School.

APPENDIX E.

At 1.30 o'clock, the Commission met at the School Board Offices, Edinburgh.

The following witnesses were examined:—

1. Andrew E. Scougal, M.A., F.R.S.E., One of Her Majesty's Inspectors of Schools under the Scotch Education Department.
2. Robert Hogg, M.A., Inspector of Schools under the Science and Art Department.
3. Miss Guthrie Wright, Hon. Secretary, Edinburgh School of Domestic Economy.
4. F. Grant Ogilvie, Principal, Heriot Watt College, Edinburgh.
5. Miss Flora C. Stevenson, Member of the Edinburgh School Board.
6. Andrew C. Tait, Assistant Teacher in Warrender Park Day School, and Head Master Sciences Evening School, Edinburgh.

At the conclusion of the evidence, the following resolution was proposed by His Grace the Most Rev. Dr. Walsh, seconded by Rev. Dr. Wilson, and passed unanimously:—

"That the sincere thanks of the Commission on Manual and Practical Instruction (Ireland) be given to the School Board of Edinburgh for the valuable aid they have given in providing facilities for the inspection of schools and for the reception of evidence; and to their various officers for their cordial co-operation."

The Commission adjourned at 4.50 o'clock.

EDINBURGH,
23rd October, 1897.

SEVENTY-EIGHTH MEETING.

Friday, October 23, 1897.

The Commission met at 9.45 a.m. at the Royal Hotel, Edinburgh.

Present:—The Right Hon. the Earl of BELMORE, K.C.M.G.; His Grace the Most Rev. William J. Walsh, D.D.; the Right Rev. Monsignor Molloy, D.D., M.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. Stanley Harrington, M.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw, and Mr. J. Struthers, B.A.,

with Mr. J. D. Daly, Secretary.

The following Commissioners visited the undermentioned schools in Edinburgh:—

His Grace the Most Rev. Dr. Walsh, Rev. Dr. Evans, Rev. Dr. Wilson, Mr. W. R. J. Molloy, and Mr. Struthers.

1. North Canongate School, where a combined workshop and cookery room was inspected.
2. Milton House Public School.
3. York-lane Cathedral School, under the care of the Sisters of Charity.
4. South Bridge School, where Kindergarten exercises, Manual Work, &c., was seen.

The following Commissioners visited Leith, and inspected the undermentioned schools:—

The Right Hon. the Earl of BELMORE, the Right Rev. Monsignor Molloy, Mr. Stanley Harrington, and Captain T. B. Shaw.

1. Craighall-road Public School.
2. Yardlands Public School.

EDINBURGH,
23rd October, 1897.

SEVENTY-NINTH MEETING.

(FIFTH PUBLIC SESSION.)

—Saturday, October 23, 1897.

The Commission met at 10 a.m. at the School Board Offices, Glasgow.

Present:—The Right Hon. the Earl of BELMORE, K.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D.; the Right Rev. Monsignor Molloy, D.D., M.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. Stanley Harrington, M.A.; Mr. W. R. J. Molloy; and Mr. J. Struthers, B.A.,

with Mr. J. D. Daly, Secretary.

The following witnesses were examined:—

1. Sir John Nelson Culbertson, B.A., Chairman of the School Board of Glasgow.
2. G. W. Alexander, M.A., Clerk to the School Board of Glasgow.
3. Miss Grace Peterson, Member of the School Board of Glasgow.
4. Miss Jane Thomson, Infant Mistress, Gorbals Public School, Glasgow.
5. Alexander Norwell, Manual Instructor under the School Board of Glasgow.
6. George F. Dunlop, Manual Instructor under the School Board of Glasgow.
7. John G. Kerr, M.A., Head Master, Allan Glen's School, Glasgow.

The Commission adjourned at 2.30 o'clock.

EDINBURGH,
23rd October, 1897.

EIGHTIETH MEETING.

APPENDIX F

Monday, October 25, 1897.

The Commission met at 9.45 a.m. at the Central Station Hotel, Glasgow.

Present.—The Right Hon. the Earl of BIRMINGHAM, G.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D.; the Right Rev. Monsignor MOLLOY, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. Stanley Harrington, D.D.; Mr. W. R. J. Molloy; and Mr. J. Struthers, D.D.;

with Mr. J. D. Daly, *Secretary*.

The following resolution was proposed by the Rev. Dr. Wilson, seconded by the Right Rev. Monsignor Molloy, and passed unanimously:—

"That the sincere thanks of the Commission on Manual and Practical Instruction (Ireland) be given to the School Board of Glasgow for the valuable aid they have given in providing facilities for the inspection of schools and for the reception of evidence; and to their various officers for their cordial co-operation."

The Commission proceeded to inspect the following Educational Institutions in Glasgow:—

1. Allen Glen's School, Glasgow, where the woodwork shop and the various laboratories and class rooms were visited.
2. The Free Church Training College, where the Commissioners were received by the Principal, Dr. Morrison, and were afforded an opportunity of visiting the various class rooms, and the Practising Schools.
3. The Church of Scotland Training College, where the Rector, Dr. Ross, showed the Commissioners through the buildings.
4. Whitehill Public School, under the School Board of Glasgow, to which is attached a centre for Manual Instruction. The buildings were inspected, and a class seen receiving instruction in cookery.
5. Notre Dame Training College, Dowan Hill, Glasgow. Here the Commissioners were received by His Grace the Archbishop of Glasgow, Very Rev. Canon Chisholm, Very Rev. Canon Mackintosh, and the Sisters of Notre Dame. The various class rooms, dormitories, &c., were inspected, and a visit paid to the Practising Schools, which were recently started in connection with the College.

GERALD MOLLOY,

25th October, 1897.

EIGHTY-FIRST MEETING.

(FIFTY-FIRST PUBLIC SITTING.)

Tuesday, October 26, 1897.

The Commission met at 2 p.m. at the Town House, Dundee.

Present.—The Right Rev. Monsignor MOLLOY, D.D., D.Sc., in the chair; Mr. W. R. J. Molloy; and Mr. J. Struthers, D.D.;

with Mr. J. D. Daly, *Secretary*.

The following witnesses were examined:—

1. Sir James Low, formerly Lord Provost of Dundee, and Member of the Manual Instruction Committee, Dundee.
2. Councillor Elbet, Chairman of the Manual Instruction Committee, Dundee.
3. Balbir Macdonald, ex-Chairman of the School Board, Dundee.
4. Robert Calder, one of Her Majesty's Inspectors of Schools under the Scotch Education Department.
5. G. J. Tarbat, Head Master, James-street Continuation School, Dundee.

At the conclusion of the evidence, the following resolution was proposed by Mr. W. R. J. Molloy, seconded by Mr. Struthers, and passed unanimously:—

"That the sincere thanks of the Commission on Manual and Practical Instruction (Ireland) be given to the Lord Provost and Town Council of Dundee for their kindness in placing their Council Chamber at the disposal of the Commission; and to Sir James Low and the other witnesses for their valuable evidence."

The Commission adjourned at 4.15 o'clock.

In the evening the Commissioners visited the Manual Schools, Dundee.

BIRMINGHAM,

10th November, 1897.

3 N

EIGHTY-SECOND MEETING.

(FIFTY-SECOND PUBLIC SITTING.)

Wednesday, November 10, 1897.

The Commission met at 11 a.m., at the Antient Concert Rooms, Dublin.

Present:—The Right Hon. the Earl of BELMONT, *O.C.M.G.*, in the chair; His Grace the Most Rev. William J. Walsh, *D.D.*; the Right Hon. C. T. Redington, *M.A.*; the Right Rev. Monsignor Molloy, *D.D.*, *D.Sc.*; Rev. Henry Evans, *D.D.*; Rev. Hamilton Wilson, *D.D.*; and Mr. W. R. J. Molloy;
with Mr. J. D. Daly, *Secretary*.

The following witnesses were examined:—

1. Thomas H. Toogan, Professor and Principal, Marlborough-street Training College, Dublin.

2. J. J. Doherty, *M.A.*, Professor and Principal, Marlborough-street Training College, Dublin.

At 3 o'clock the Commission adjourned to 2.45. On resuming, the following witnesses were examined:—

3. Rev. George Campbell, *O.M.*, Vice-Principal, St. Patrick's Training College, Drumcondra.

4. Stephen Fitzpatrick, Professor of Method, Arithmetic, &c., St. Patrick's Training College, Drumcondra.

The Commission adjourned at 4.15 o'clock.

BELMONT,
11th November, 1897.

EIGHTY-THIRD MEETING.

(FIFTY-THIRD PUBLIC SITTING.)

Thursday, November 11, 1897.

The Commission met at 11 a.m., at the Antient Concert Rooms, Dublin.

Present:—The Right Hon. the Earl of BELMONT, *O.C.M.G.*, in the chair; His Grace the Most Rev. William J. Walsh, *D.D.*; the Right Hon. C. T. Redington, *M.A.*; the Right Rev. Monsignor Molloy, *D.D.*, *D.Sc.*; Rev. Henry Evans, *D.D.*; Rev. Hamilton Wilson, *D.D.*; and Mr. W. R. J. Molloy;
with Mr. J. D. Daly, *Secretary*.

The following witnesses were examined:—

1. George Peyton, *L.B.*, Professor, Marlborough-street Training College, Dublin.2. Rev. J. M. Hamilton, *M.A.*, Manager, Denora National School, Dublin.3. Rev. J. W. Tristram, *D.D.*, Organising Secretary, Diocesan Board of Education, Dublin.

At 1.30 the Commission adjourned for lunch; at 2.30 the Commission resumed the taking of evidence, and the following were examined:—

4. Rev. Gilbert Mahaffy, Rector of St. Peter's, Dublin.

5. Edward MacCreanor, formerly an Inspector of National Schools.

The Commission adjourned at 4.30 o'clock.

BELMONT,
12th November, 1897.

EIGHTY-FOURTH MEETING.

(FIFTY-FOURTH PUBLIC SITTING.)

Friday, November 12, 1897.

The Commission met at 11 a.m., at the Antient Concert Rooms, Dublin.

Present:—The Right Hon. the Earl of BELMONT, *O.C.M.G.*, in the chair; His Grace the Most Rev. William J. Walsh, *D.D.*; the Right Hon. C. T. Redington, *M.A.*; the Right Rev. Monsignor Molloy, *D.D.*, *D.Sc.*; Rev. Henry Evans, *D.D.*; Rev. Hamilton Wilson, *D.D.*; and Mr. W. R. J. Molloy;
with Mr. J. D. Daly, *Secretary*.

The following witnesses were examined:—

1. Rev. H. Kingsmill-Moore, *M.A.*, Principal, Church of Ireland Training College, Riddarsholmen, Dublin.

2. A. Potter, Head Inspector of National Schools (further examined).

3. S. E. Stronge, *M.A.*, Head Inspector of National Schools (further examined).

The Commission adjourned at 3 o'clock.

✠ WILLIAM J. WALSH,
Archbishop of Dublin.
13th November, 1897.

EIGHTY-FIFTH MEETING.

Thursday, November 18, 1897.

[APPENDIX F.]

The Commission met at 3 p.m., at the Antient Concert Rooms, Dublin.

Present:—His Grace the Most Rev. WILLIAM J. WALSH, D.D., in the chair; the Right Hon. C. Palles, M.L.B., Lord Chief Baron of the Exchequer; the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., M.D.; Rev. Henry Evans, M.D.; Rev. Hamilton Wilson, M.A., Mr. Stanley Harrington, M.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, B.A.;

with Mr. J. D. Daly, Secretary.

The Commission proceeded to discuss their Final Report.

A brief general outline was drafted, and it was decided to further consider this draft at the Meeting on Friday, 19th inst., the Commission to meet for the purpose at 1.30 p.m.

It was decided to appoint a Committee to report on certain matters relating to the Final Report.

The following were appointed on the Committee:—

Right Hon. C. T. Redington, Right Rev. Monsignor Molloy, Rev. Dr. Evans, Mr. W. R. J. Molloy, Captain Shaw, Mr. Struthers.

Mr. Molloy was appointed Convener of the Committee.

In the morning a visit was paid to St. Patrick's Training College, Drumcondra.

Present:—Mr. Stanley Harrington, Captain T. B. Shaw, and Mr. J. Struthers.

The Commission adjourned at 5.40 o'clock.

✠ WILLIAM J. WALSH,
Archbishop of Dublin.
18th November, 1897.

EIGHTY-SIXTH MEETING.

(FIFTY-FIFTH PUBLIC SITTING.)

Friday, November 19, 1897.

The Commission met at 2.30 p.m., at the Antient Concert Rooms, Dublin.

Present:—His Grace the Most Rev. WILLIAM J. WALSH, D.D., in the chair; the Right Hon. C. Palles, M.L.B., Lord Chief Baron of the Exchequer; the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., M.D.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.S.E.; Mr. Stanley Harrington, B.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, B.A.;

with Mr. J. D. Daly, Secretary.

It was decided that the several portions of the Draft Outline Report should be given into the charge of different Committees.

The following Committee was appointed to deal with the question of the allotment of these various parts of the Report:—

His Grace the Most Rev. Dr. Walsh; Right Hon. C. T. Redington; His Honour Judge Shaw; and Rev. Dr. Evans.

The doors were opened at 3 o'clock, and the following witnesses were examined:—

1. Professor T. Johnson, D.Sc., Professor of Botany, Royal College of Science, Dublin.
2. Professor Grenville A. J. Cole, F.R.S.E., Professor of Geology, Royal College of Science, Dublin.
3. Professor W. F. Barrett, F.R.S.E., Professor of Physics, Royal College of Science, Dublin.
4. Rev. Francis Ryan, F.R.P., St. Joseph's, Berkeley-street, Dublin.

In the morning, the following Commissioners visited the Church of Ireland Training College, Kildare-place, and subsequently Bagginistown Training College:—

Right Rev. Monsignor Molloy; Mr. Stanley Harrington; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers.

The Commission adjourned at 5.30 o'clock.

BELMORE,
19th December, 1897.

EIGHTY-SEVENTH MEETING.

Thursday, December 16, 1897.

The Commission met at 3 p.m., at the Antient Concert Rooms, Dublin.

Present:—The Right Hon. the Earl of BELMORE, G.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. Palles, M.L.B., Lord Chief Baron of the Exchequer; the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., M.D.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.S.E.; Mr. Stanley Harrington, M.A.; Mr. W. R. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, B.A.;

with Mr. J. D. Daly, Secretary.

The Commission having dealt with the correspondence, proceeded to consider the Reports of the various Committees which were appointed to deal with the several portions of the draft outline of Report.

The Commission adjourned at 6 o'clock.

BELMORE,
17th December, 1897.

EIGHTY-EIGHTH MEETING.

(FIFTY-SIXTH PUBLIC SITTING).

Friday, December 17, 1897.

The Commission met at 3 p.m., at the Antient Concert Rooms, Dublin.

Present.—The Right Hon. the Earl of BELMONT, G.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D., the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., M.D.; the Right Rev. Monsignor Molloy, D.D., D.M.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.D.; Mr. Stanley Harrington, M.A.; Mr. W. B. J. Molloy, Captain T. B. Shaw; and Mr. J. Struthers, M.A.;

with Mr. J. D. Daly, *Secretary*.

The following witness was examined:—

Professor W. N. Hartley, F.R.S., Professor of Chemistry, in the Royal College of Science, Dublin.

At the conclusion of the evidence the Commission resumed the consideration of the Reports of the Committees.

The Commission adjourned at 5.40 o'clock.

BELMONT,
18th December, 1897.

EIGHTY-NINTH MEETING.

Saturday, December 18, 1897.

The Commission met at 11 a.m., at the Antient Concert Rooms, Dublin.

Present.—The Right Hon. the Earl of BELMONT, G.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., M.D.; the Right Rev. Monsignor Molloy, D.D., D.M.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Professor G. F. Fitzgerald, F.R.C.D.; Mr. Stanley Harrington, M.A.; Mr. W. B. J. Molloy; Captain T. B. Shaw; and Mr. J. Struthers, M.A.;

with Mr. J. D. Daly, *Secretary*.

The Commission resumed the consideration of the Reports of the Committees.

The Commission adjourned at 5.30 o'clock.

BELMONT,
20th December, 1897.

NINETIETH MEETING.

Monday, December 20, 1897.

The Commission met at 11 a.m., at the Antient Concert Rooms, Dublin.

Present.—The Right Hon. the Earl of BELMONT, G.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. T. Redington, M.A.; His Honour Judge Shaw, Q.C., M.D.; Professor G. F. Fitzgerald, F.R.C.D.; Captain T. B. Shaw; and Mr. J. Struthers, M.A.;

with Mr. J. D. Daly, *Secretary*.

The Commission resumed the consideration of the Reports of the Committees.

The Commission adjourned at 1.25.

BELMONT,
25th January, 1898.

NINETY-FIRST MEETING.

Thursday, January 27, 1898.

The Commission met at 3 p.m., at the Antient Concert Rooms, Dublin.

Present.—The Right Hon. the Earl of BELMONT, G.C.M.G., in the chair; His Grace the Most Rev. William J. Walsh, D.D.; the Right Hon. C. F. Parnell, Lord Chief Baron of the Exchequer; the Right Hon. C. T. Redington, M.A.; the Right Rev. Monsignor Molloy, D.D., D.M.; Rev. Henry Evans, D.D.; Rev. Hamilton Wilson, D.D.; Mr. Stanley Harrington, M.A.; Mr. W. B. J. Molloy; and Captain T. B. Shaw;

with Mr. J. D. Daly, *Secretary*.

The Commission resumed the consideration of the Reports of the Committees.

A Committee was appointed to take charge of the final arrangement of the Report.

The following, together with any other members of the Commission who might find it convenient to attend, were appointed to act in this Committee —

The Right Hon. the Earl of BELMORE; His Grace the Most Rev. Dr. Walsh, the Right Hon. C. T. Redington, Rev. Dr. Evans, Rev. Dr. Wilson; Professor Fitzgerald; Mr. W. R. J. Molloy, Captain T. B. Shaw, and Mr. J. Struthers.

The Commission adjourned at 5.30 o'clock.

✠ WILLIAM J. WALSH,
Archbishop of Dublin.
10th June, 1898.

(Note by Secretary.—The Commission appointed to deal with the final arrangement of the Report, met on the following dates—January 28, February 17, 18, March 11, 12, 31, April 1, 2, 28, 29; May 20, 21.)

NINETY-SECOND MEETING.

Friday, June 10, 1898.

The Commission met at 11 a.m. at the Antient Concert Rooms, Dublin.

Present.—His Grace the Most Rev. WILLIAM J. WALSH, D.D., in the chair; the Right Hon. C. Pallen, M.D., Lord Chief Baron of the Exchequer; the Right Hon. C. T. Redington, M.A.; the Right Rev. Monsignor Molloy, D.D., D.Sc.; Rev. Henry Evans, D.D.; Professor G. F. Fitzgerald, M.D.; Mr. Stanley Harrington, M.A.; and Mr. W. R. J. Molloy.

with Mr. J. D. Daly, Secretary.

Read letter from the Countess of Belmore, stating that Lord Belmore could not attend the meeting through illness.

The Secretary reported that the Committee appointed to deal with the Final Report, had met on twelve occasions, viz.—January 28, February 17 and 18, March 11, 12, 31, April 1, 2, 28, 29; May 20 and 21.

The Commission considered the Draft Report as finally revised by the Committee.

The Report, being amended, was adopted.

Directions were given to the Secretary with reference to the obtaining of the Signatures of those Commissioners who were away from Dublin.

The Commission rose at 5.30 o'clock.

✠ WILLIAM J. WALSH,
Archbishop of Dublin.
20th June, 1898.

NINETY-THIRD MEETING.

Saturday, June 26, 1898.

The Commission met at 11 a.m. at the Antient Concert Rooms, Dublin.

Present.—His Grace the Most Rev. WILLIAM J. WALSH, D.D., in the chair; the Right Hon. C. Pallen, M.D., Lord Chief Baron of the Exchequer; the Right Hon. C. T. Redington, M.A.; and the Right Rev. Monsignor Molloy, D.D., D.Sc.;

with Mr. J. D. Daly, Secretary.

This meeting was summoned by the direction of His Grace the Most Rev. Dr. Walsh, as senior member of the Commission in the absence of the Chairman, in consequence of a letter received by the Secretary from the Countess of Belmore. The latter stated that Lord Belmore was unable to sign the Report as he continued seriously indisposed, and was not allowed by the doctors to transact business of any kind.

The following paragraph was added to the Report, the concurrence of the absent members of the Commission having been notified by them to the Secretary—

"The Earl of Belmore, Chairman of the Commission, attended our meetings most assiduously during the whole progress of our inquiry, guiding our proceedings and taking part in our discussions. He was also present at meetings held in December, January, and February last, when the substance and general outline of this Report were unanimously agreed to. After these meetings, we regret to say, he became seriously indisposed, and has not since been allowed by his doctors to transact any business in connection with the Commission."

The Commission having concluded their business rose at 12 o'clock.

✠ WILLIAM J. WALSH,
Archbishop of Dublin.
25th June, 1898.

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